Session Title: **All the News about VSAM with z/VSE 4.2**

Session ID: **zEG03**

Speaker Name: Stev Glodowski

Authorized
IBM. | Training

Trademarks

The following are trademarks of the International Business Machines Corporation in the United States, other countries, or both.

Not all common law marks used by IBM are listed on this page. Failure of a mark to appear does not mean that IBM does not use the mark nor does it mean that the product is not actively marketed or is not significant within its relevant market.

Those trademarks followed by ® are registered trademarks of IBM in the United States; all others are trademarks or common law marks of IBM in the United States.

For a complete list of IBM Trademarks, see www.ibm.com/legal/copytrade.shtml:

*, AS/400®, e business(logo)®, DBE, ESCO, eServer, FICON, IBM®, IBM (logo)®, iSeries®, MVS, OS/390®, pSeries®, RS/6000®, S/30, VM/ESA®, VSE/ESA, WebSphere®, xSeries®, z/OS®, zSeries®, z/VM®, System i, System i5, System p, System p5, System x, System z, System z9®, BladeCenter®

The following are trademarks or registered trademarks of other companies.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.
Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.
Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.
Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.
Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
UNIX is a registered trademark of The Open Group in the United States and other countries.
Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.
ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.
IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency, which is now part of the Office of Government Commerce.

* All other products may be trademarks or registered trademarks of their respective companies.

Notes:
Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.
IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.
All customer examples cited or described in this presentation are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual customer configurations and conditions.
This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. Consult your local IBM business contact for information on the product or services available in your area.
All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.
Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.
Prices subject to change without notice. Contact your IBM representative or Business Partner for the most current pricing in your geography.

Agenda

- **IDCAMS SNAP command enhancements**

- **Backup/Restore enhancements**

- **VSAM Meaningful Clusternames**

- **Preventing Duplicate Candidate Volumes**

- **New VSAM Spacemap Prodexit**

- **Task ID for VSAM Lock requests x'A8'**

- **New VSAM Redirector AIX Support**

IDCAMS SNAP command enhancements

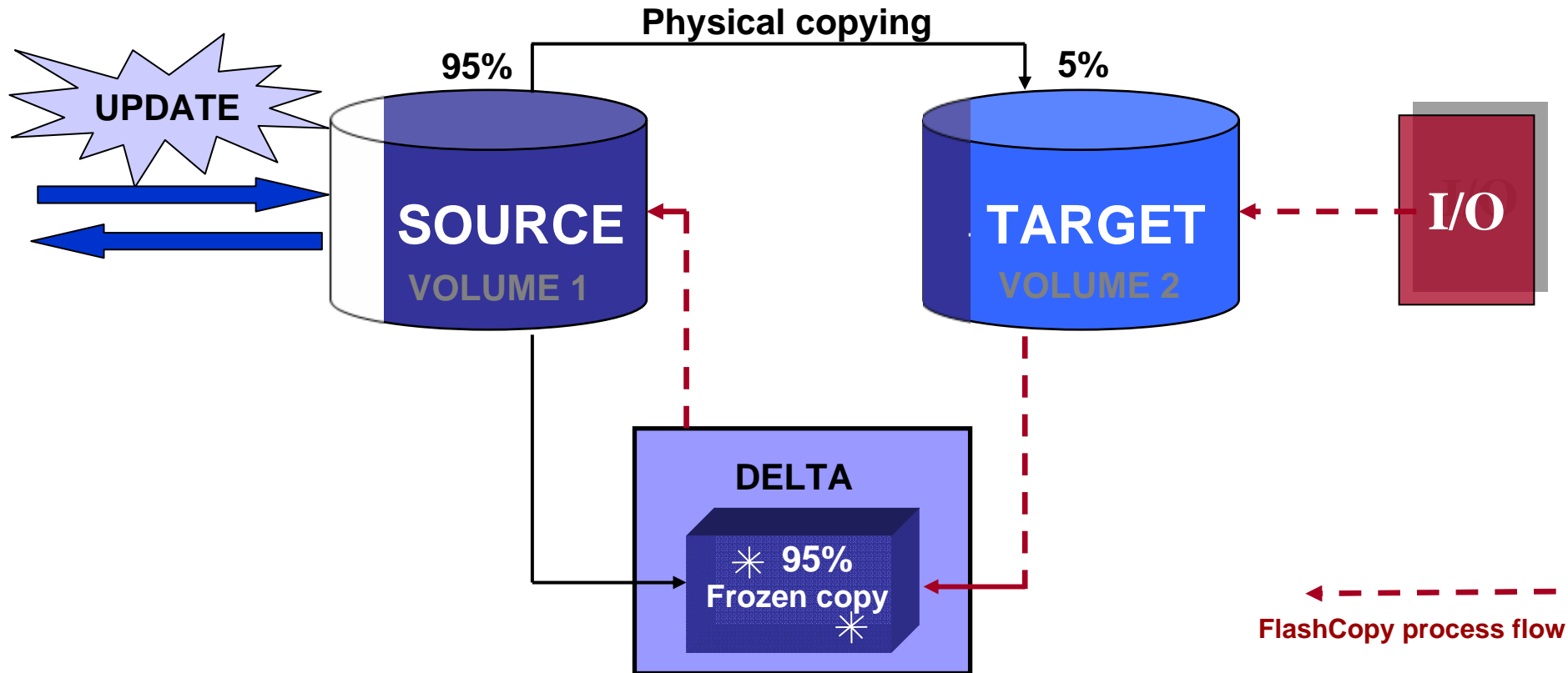**The IDCAMS SNAP command provides an interface to the FlashCopy feature.**

- **New NOCOPY parameter of the IDCAMS SNAP command creates the FlashCopy. The physical copying of data to target volumes is not performed.**

- **New DDSR parameter of the IDCAMS SNAP command terminates the FlashCopy relation between the source and target volumes and frees the used resources.**

- **New parameter COPY of the IDCAMS SNAP command is now specified explicitly.**

- **Provided an opportunity to administrate user access rights to the IDCAMS SNAP command using the Basic Security Manager (BSM).**

    See New Chapter 10, "Performing an IDCAMS SNAP (FlashCopy)" "VSE/VSAM User's Guide and Application Programming".
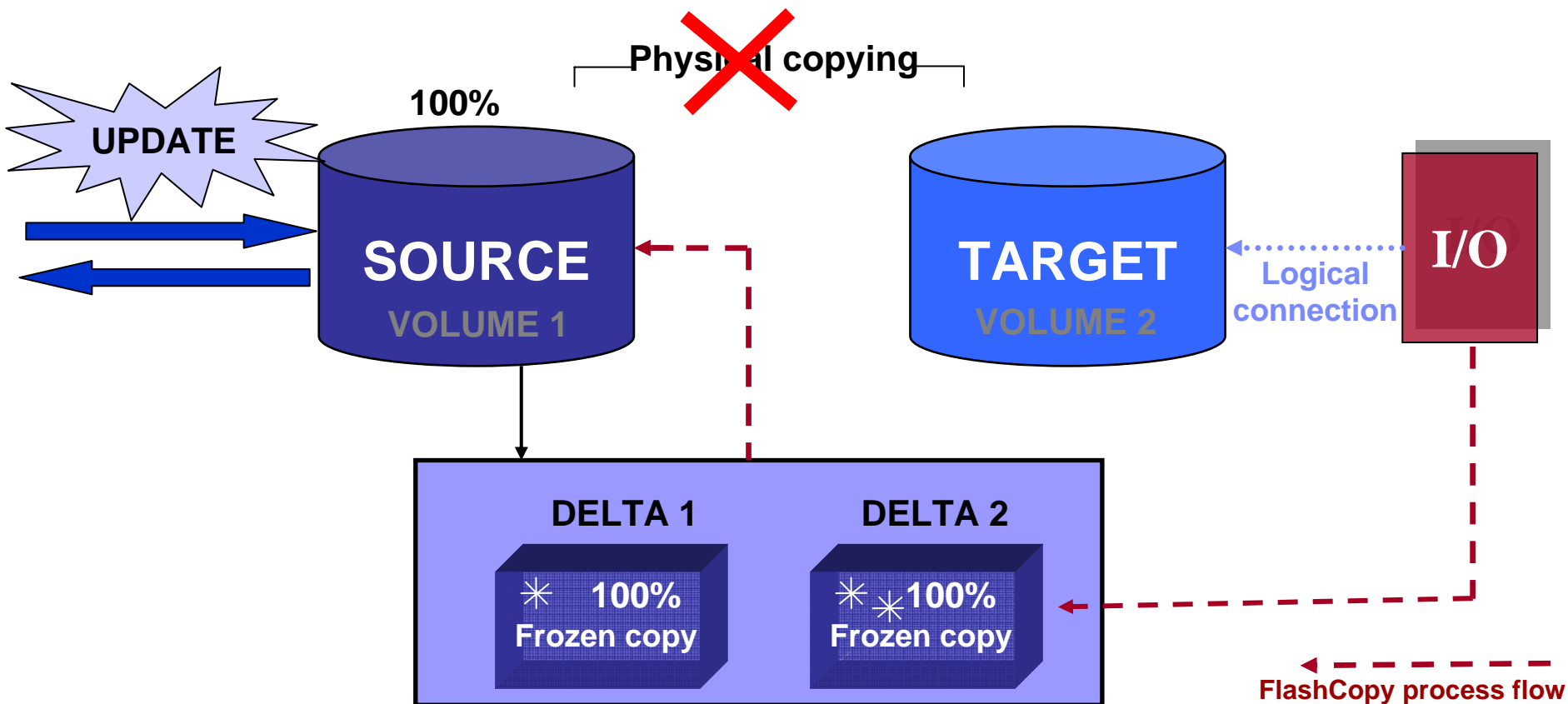
IDCAMS SNAP COPY parameter

Explicit specification of the default COPY parameter of the IDCAMS SNAP command, facilitates referencing to it by other z/VSE components.
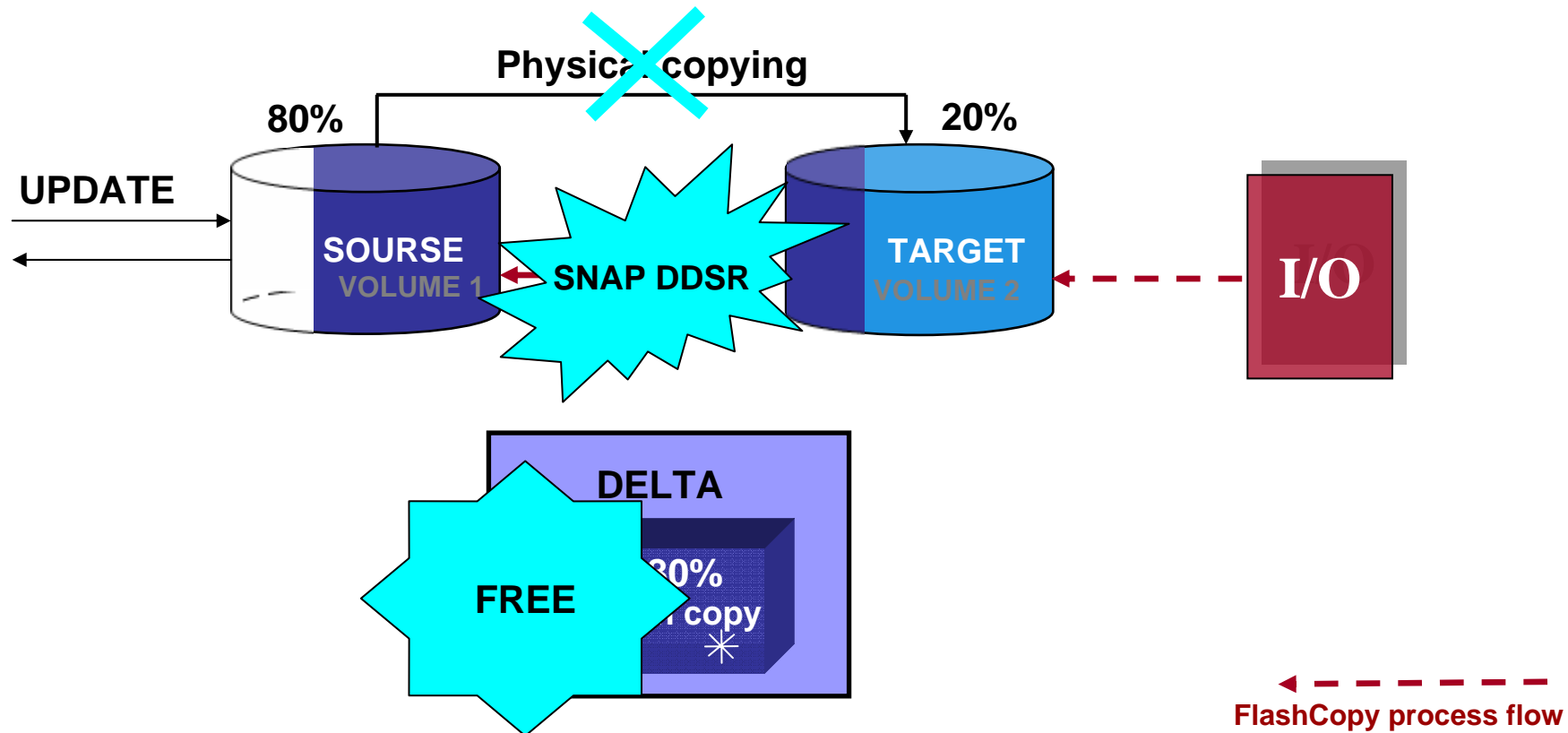
IDCAMS SNAP **NOCOPY** parameter

The NOCOPY parameter of the IDCAMS SNAP command allows the user to eliminate real copying of source volumes to the target volumes for temporary FlashCopy and thus eliminate the superfluous I/O activity.

Physical copying

100%

UPDATE

SOURCE
VOLUME 1

TARGET
VOLUME 2

Logical connection

I/O

DELTA 1

DELTA 2

✷ **100%**
Frozen copy

✷✷ **100%**
Frozen copy

FlashCopy process flow

IDCAMS SNAP DDSR parameter

The DDSR parameter of the IDCAMS SNAP command allows the user to delete FlashCopy relations and thus to stop unnecessary managing of a Delta File and to release internal ESS resources as soon as they are no longer needed.

Physical copying

80%   20%

UPDATE

SOURSE
VOLUME 1

SNAP DDSR

TARGET
VOLUME 2

I/O

DELTA

FREE

80%
copy

FlashCopy process flow

Sample of SNAP COPY, NOCOPY, DDSR

COPY

```
SNAP SVOL(VSE222) TARGETVOLUMES(VSE444) COPY NOPROMPT

IMPORT CONNECT -
    OBJECTS((COPY.UCAT VOLUMES(VSE444) DEVT(3390))) -
    CAT(VSAM.MASTER.CATALOG)

BACKUP (FILE1) BPFILE(BF) SYNONYMLIST( -
    SOURCEVOLUMES(VSE222) TARGETVOLUMES(VSE444) -
    CATALOG(UCAT) SYNCATALOG(COPY.UCAT))

RESTORE OBJECTS(FILE1) BPFILE(BF) CAT(UCAT)

SNAP TARGETVOLUMES(VSE444) DDSR NOPROMPT

EXPORT COPY.UCAT    DISCONNECT
```

NOCOPY

```
SNAP SOURCEVOLUMES(VSE222) TVOL(VSE333) NOCOPY NOPROMPT

IMPORT CONNECT -
    OBJECTS((NOCOPY.UCAT VOLUMES(VSE333) DEVT(3390))) -
    CAT(VSAM.MASTER.CATALOG)

BACKUP (FILE1) BPFILE(BF) SYNONYMLIST( -
    SOURCEVOLUMES(VSE222) TARGETVOLUMES(VSE333) -
    CATALOG(UCAT) SYNCATALOG(NOCOPY.UCAT))

RESTORE OBJECTS(FILE1) BPFILE(BF) CAT(UCAT)

SNAP TARGETVOLUMES(VSE333) DDSR NOPROMPT

EXPORT NOCOPY.UCAT DISCONNECT
```

Output of SNAP COPY, NOCOPY, DDSR

COPY

```
SNAP SVOL(VSE222) TARGETVOLUMES(VSE444) COPY NOPROMPT
IDC32204I RACROUTE RESOURCE NOT PROTECTED OR BATCH SECURITY=OFF
IDC0935I IXFP/SNAPSHOT FUNCTION COMPLETED SUCCESSFULLY
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

IMPORT CONNECT -
      OBJECTS((COPY.UCAT VOLUMES(VSE444) DEVT(3390))) -
      CAT(VSAM.MASTER.CATALOG)
IDC0603I  CONNECT FOR USER CATALOG  COPY.UCAT SUCCESSFUL
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

BACKUP (FILE1) BPFILE(BF) SYNONYMLIST( -
      SOURCEVOLUMES(VSE222) TARGETVOLUMES(VSE444) -
      CATALOG(UCAT) SYNCATALOG(COPY.UCAT))
IDC01300I BACKUP FILE CREATED ON XX/XX/2008 AT XX:XX:XX
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

RESTORE OBJECTS(FILE1) BPFILE(BF) CAT(UCAT)
IDC01301I RESTORE'S BACKUP FILE CREATED ON XX/XX/2008 AT XX:XX:XX
IDC01304I SUCCESSFUL DEFINITION OF FILE1
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

SNAP TARGETVOLUMES(VSE444) DDSR NOPROMPT
IDC32204I RACROUTE RESOURCE NOT PROTECTED OR BATCH SECURITY=OFF
IDC0935I IXFP/SNAPSHOT FUNCTION COMPLETED SUCCESSFULLY
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

EXPORT COPY.UCAT   DISCONNECT
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0
```

NOCOPY

```
SNAP SOURCEVOLUMES(VSE222) TVOL(VSE333) NOCOPY NOPROMPT
IDC32204I RACROUTE RESOURCE NOT PROTECTED OR BATCH SECURITY=OFF
IDC0935I IXFP/SNAPSHOT FUNCTION COMPLETED SUCCESSFULLY
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

IMPORT CONNECT -
      OBJECTS((NOCOPY.UCAT VOLUMES(VSE333) DEVT(3390))) -
      CAT(VSAM.MASTER.CATALOG)
IDC0603I  CONNECT FOR USER CATALOG  NOCOPY.UCAT SUCCESSFUL
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

BACKUP (FILE1) BPFILE(BF) SYNONYMLIST( -
      SOURCEVOLUMES(VSE222) TARGETVOLUMES(VSE333) -
      CATALOG(UCAT) SYNCATALOG(NOCOPY.UCAT))
IDC01300I BACKUP FILE CREATED ON XX/XX/2008 AT XX:XX:XX
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

RESTORE OBJECTS(FILE1) BPFILE(BF) CAT(UCAT)
IDC01301I RESTORE'S BACKUP FILE CREATED ON XX/XX/2008 AT XX:XX:XX
IDC01304I SUCCESSFUL DEFINITION OF FILE1
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

SNAP TARGETVOLUMES(VSE333) DDSR NOPROMPT
IDC32204I RACROUTE RESOURCE NOT PROTECTED OR BATCH SECURITY=OFF
IDC0935I IXFP/SNAPSHOT FUNCTION COMPLETED SUCCESSFULLY
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0

EXPORT NOCOPY.UCAT DISCONNECT
IDC0001I FUNCTION COMPLETED, HIGHEST CONDITION CODE WAS 0
```

The FLASHCOPY VSAM CATALOG/FILES dialog

The „FLASHCOPY VSAM CATALOG / FILES" dialog (fastpath 3719) is enhanced to allow user to choose the option to create a FlashCopy of the source volumes on the target volumes

```
 DSF$SNP2                    FLASHCOPY VSAM CATALOG / FILES


  Enter the required data and press ENTER.


 Enter  all entire  Source  Disk  Volumes where the CATALOG and all its Datasets
 reside and the  Target  Volumes to which the  FlashCopy has to be done.


 SOURCE VOLUME 1.............. _____          Enter the Volume-id where the CATALOG
                                               resides
 TARGET VOLUME 1.............. _____          Enter the Volume-id to which  Flash
                                               Copy has to be done
 MORE VOLUMES................. 2               Enter  1 to add more volumes.
                                               Otherwise, enter  2
 COPY/NOCOPY................. 1               Enter  1 to initiate a FlashCopy
                                               relation and copy source to target
                                               volumes, otherwise, enter  2
                                               to initiate a FlashCopy relation
                                               with option NOCOPY.


  PF1=HELP      2=REDISPLAY  3=END
```

IDCAMS SNAP using the Basic Security Manager

z/VSE administrator enabled to control the usage of the IDCAMS SNAP command.

SAMPLE (z/VSE console):

r rdr,pausebg

0 exec bstadmin
BG 0000 1S54I PHASE BSTADMIN IS TO BE FETCHED FROM IJSYSRS.SYSLIB
BG-0000 BST901A ENTER COMMAND OR END

everybody is allowed to use SNAP…COPY command
0 add facility vsam.snap.**copy** uacc(read)
BG 0000 BST904I RETURN CODE OF ADD IS 00
BG-0000 BST901A ENTER COMMAND OR END

everybody is allowed to use SNAP…DDSR command
0 add facility vsam.snap.**ddsr** uacc(read)
BG 0000 BST904I RETURN CODE OF ADD IS 00
BG-0000 BST901A ENTER COMMAND OR END

nobody is allowed to use SNAP…NOCOPY command
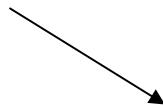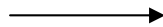0 add facility vsam.snap.**nocopy** uacc(none)
BG 0000 BST904I RETURN CODE OF ADD IS 00
BG-0000 BST901A ENTER COMMAND OR END
0 end
BG-0000
0

IDCAMS SNAP using the Basic Security Manager

Administering the usage of the IDCAMS SNAP command can be done with the following

Basic Security Manager Facilities:

> VSAMSNAP.COPY for IDCAMS SNAP COPY
>
> VSAMSNAP.NOCOPY for IDCAMS SNAP NOCOPY
>
> VSAMSNAP.DDSR for IDCAMS SNAP DDSR

If no BATCH security is enabled in the zVSE system (**SYS SEC=NO**) or it is enabled but no **VSAMSNAP.[COPY|NOCOPY|DDSR] RACROUTE** facility was defined using **BSTADMIN,** then the **IDCAMS SNAP [COPY|NOCOPY|DDSR]** statements are executed as requested but with a warning:

```
IDC32204I RACROUTE RESOURCE NOT PROTECTED OR BATCH SECURITY=OFF
```

If BATCH security is enabled and the corresponding VSAMSNAP Facility has been defined to the BSM, then an ID statement has to be supplied in the job to identify the user.

If at least one of the following is true:

✓ *the user has at least **READ** access for the corresponding VSAMSNAP Facility related to the issued **IDCAMS SNAP** command,*

✓ *the **VSAMSNAP** Facility is defined with universal access,*

✓ *the supplied user ID is an administrator ID and, therefore, the user has access to all the **BSTADMIN** resources,*

then the appropriate **IDCAMS SNAP** function is executed, accompanied by the following message:

```
IDC32200I RACROUTE (AUTH) SUCCESSFUL
```

In all the other cases the requested IDCAMS SNAP function is suspended.

Backup/Restore enhancements

- **Producing cross-reference listings using the RESTORE command**

- **Producing cross-reference listings without objects being restored**

- **Correct identification of compressed files in cross-reference listings**

- **Correct identification of empty files in cross-reference listings**

Backup/Restore enhancements
Invocation and Description

VSE/VSAM Backup/Restore provides a new capability to produce cross-reference listings of objects backed up and their place on the tape or disk volumes as a result of the RESTORE command processing.

For a backup file on *tape,* the following two listings are produced:
- *Volume cross-reference listing*
- *Object cross-reference listing*

For a backup on *disk*, the following three listings are produced:
- *Volume cross-reference listing*
- *Object cross-reference listing*
- *Extent list*

Note: Thus, the same set of cross-reference listings are produced by both the BACKUP command and the RESTORE command.

Backup/Restore Enhancements
Invocation and Description

NOXREF|XREF|XREFONLY

Specify whether the cross-reference listings are to be produced.

- **NOXREF** specifies that the cross-reference listings will not be produced but objects restoration will be performed.

Abbreviations: NXREF

- **XREF** specifies that both the cross-reference listings will be produced and objects restoration will be performed.

Abbreviations: None

- **XREFONLY** specifies that only the cross-reference listings will be only produced and thus objects restoration will not be performed.

Abbreviations: XREFY

- **Default: NOXREF**

Backup/Restore Enhancements Sample

XREFONLY

.

RESTORE

```
RESTORE OBJECTS(*) XREFY
IDC01301I RESTORE'S BACKUP FILE CREATED ON XX/XX/2008 AT 13:38:25
IDCAMS SYSTEM SERVICES TIME: 13:38:38 XX/XX/2008 PAGE 2

BACKUP EXTENT CROSS-REFERENCE LISTING (BECR)
EXTSEQ VOLSER OBJECT NAME OBJECT TYPE SEGMENT TYPE
001 DSKB8A VSMCKD.KSDS.KEY8.A.C001 ................... KSDS CMP ONLY
           VSMCKD.KSDS.KEY8.A.C002 ................... KSDS ONLY
           VSMCKD.KSDS.KEY8.A.C003 ................... KSDS ONLY
           VSMCKD.KSDS.KEY8.A.C004 ................... KSDS ONLY
           VSMCKD.KSDS.KEY8.A.C005 ................... KSDS CMP EMPTY
           VSMCKD.KSDS.KEY8.A.C006 ................... KSDS CMP ONLY
           VSMCKD.KSDS.KEY8.A.C007 ................... KSDS CMP ONLY
           VSMCKD.KSDS.KEY8.A.C008 ................... KSDS CMP ONLY
```

Restore Cross Reference Listing

- The Restore VSAM File dialog (fastpath 3714) is enhanced to allow user to choose the option to produce cross-reference listings of objects backed up and their place on the tape or disk volumes as a result of the RESTORE command processing.

  A new section has been introduced in the following IUI dialog:

Fastpath 3714

```
DSF$RES1                        RESTORE VSAM FILE


Enter the required data and press ENTER.


CATALOG TYPE................ 3          Enter  1 to restore into the
                                       MASTER catalog, or enter  2 to
                                       restore into a USER catalog, or enter
                                        3 to restore MULTIPLE catalogs.
Enter  the  identification of the user catalog if you specify  2 for USER in
the CATALOG TYPE field.

       _____        _____        _____        _____        _____


RESTORE ALL................. _         Enter  1 to restore EVERYTHING from
                                       your backup file. Otherwise enter
                                        2 to restore SELECTED files only.
INPUT MEDIUM................ 2         Enter  1 for DISK or 2 for TAPE or
                                        3 for Virtual Tape.
XREFERENCE LISTINGS......... 2         Enter  1 to restore objects or  2 to
                                       produce cross-reference listings or
                                        3 to do both.
```

VSAM Meaningful Clusternames

If not specified explicitly by the user, meaningful cluster names are now generated by VSAM for AIX/Cluster data and index component.

The generated data component and index component names will use:

- **the specified clustername + .DATA or .D for the data component**

- **the specified clustername + .INDEX or .I for the index component**

Old VSAM generated names

**Up to now, VSAM generated the 44-characters name of the data
and index components using the following data:**

- **the current value of bits 0-55 of the time-of-date (TOD) clock at
  the moment of the name creation,**

- **the year and the day of creation,**

- **inserting in the name some constants and the period signs.**

Example of the OLD NAME Format:

part 1	part 2	part 3	part 4	part 5
T99EFB7B.	**VSAMDSET.**	**DFD08086.**	**TC05B8EF.**	**T99EFB7B**

The TOD clock value (bits 0-63) stored by STCK instruction: C05B8EF9 9EFB7B40

New VSAM Meaningful Clusternames

- **If the last qualifier of the name is CLUSTER** : **CLUS.TESTNAME.CLUSTER**

  Generated data name   = CLUS.TESTNAME.**DATA**

  Generated index name   = CLUS. TESTNAME.**INDEX**

- **If the cluster name <= 38 characters** : **DEPTABC.TEST.INFO**

  Generated data name   = DEPTABC.TEST.INFO.**DATA**

  Generated index name   = DEPTABC.TEST.INFO.**INDEX**

- **If the cluster name is between 39 and 42 characters inclusive** : **DEPTABCD.RESOURCE. ABCDEFGH.DATA1234.STUFF**

  Generated data name   = DEPTABCD.RESOURCE.ABCDEFGH.DATA1234.STUFF.**D**

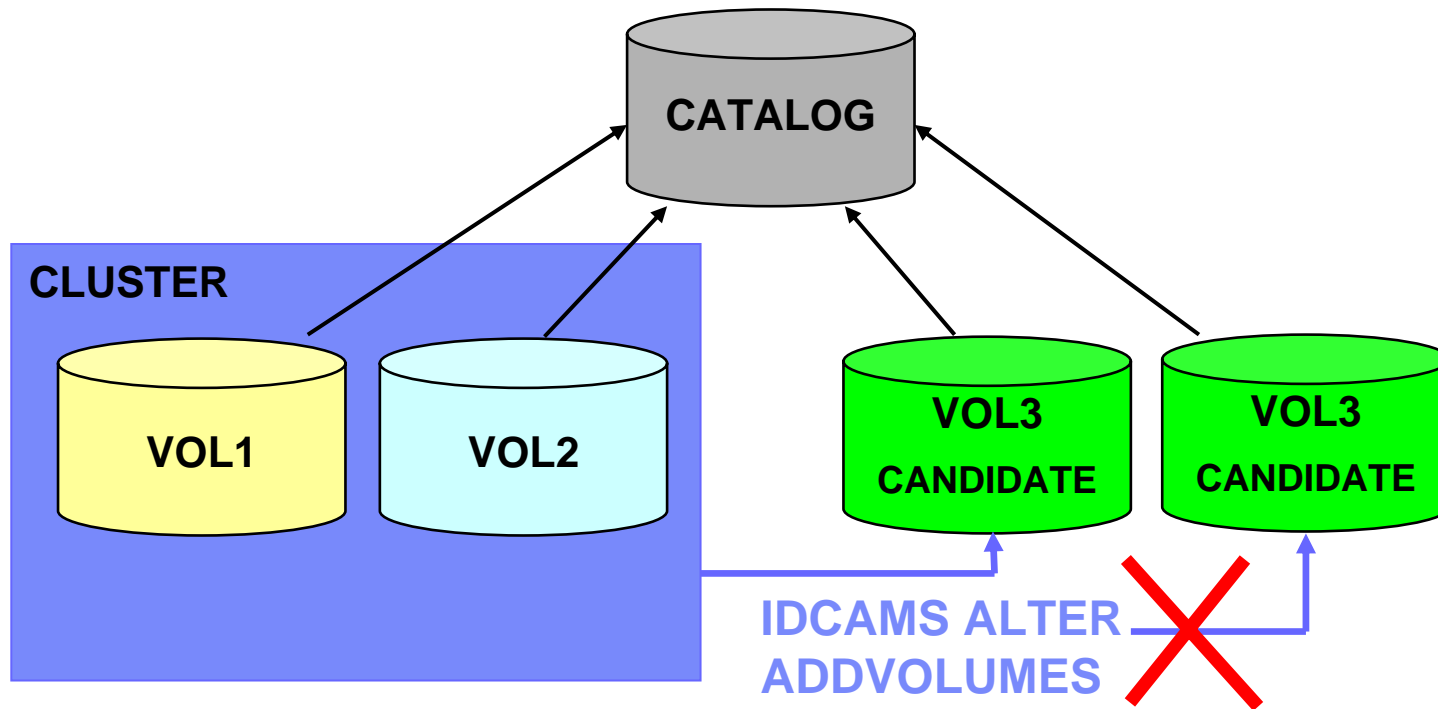 Generated index name   = DEPTABCD.RESOURCE. ABCDEFGH.DATA1234.STUFF.**I**

- **If longer than 42 characters, and the last qualifier is not CLUSTER** :

  COMPANY.DEVISION.DEPT.DLREPORT.DECADE.MONTH

  Generated data name   = COMPANY.DEVISION.DEPT.DLREPORT.**D99EFB7B**

  Generated index name   = COMPANY.DEVISION.DEPT.DLREPORT.**I1A12FAE**

Preventing Duplicate Candidate Volumes

The IDCAMS ALTER command will allow to add any volume as candidate only once.

New error message

If the candidate volume is already present in the list of object candidate volumes, the request will be rejected with IDCAMS Return Code 60 and new Reason code 40

`IDC3009I ** VSAM CATALOG RETURN CODE IS `*`nnn`*` - REASON CODE IS IGG0CL`*`xx`*` - `*`mmm`*

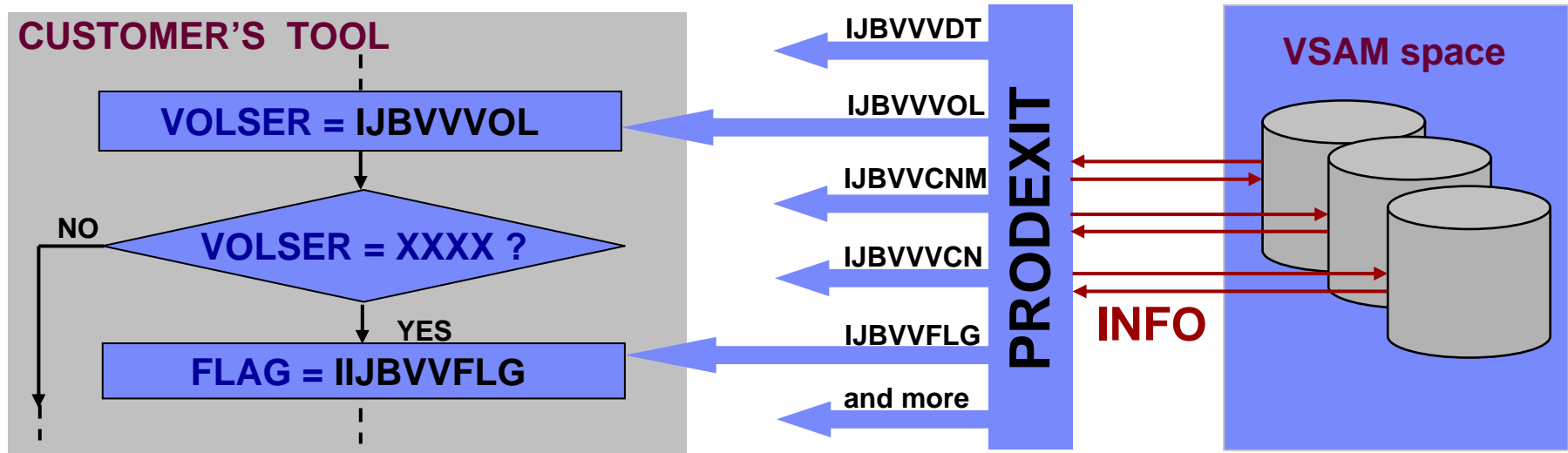| Return code	Reason code	Explanation
60	40	**Explanation:** An attempt was made to add a volume to the object which already has this volume as candidate. Request rejected.

See "z/VSE Messages and Codes Volume 2".

New VSAM Spacemap PRODEXIT

- New IJBVVEXU VSAM PRODEXIT allows monitoring the allocation of VSAM data space extents and the suballocation of VSAM cluster extents.

Advantages:

- The Prodexit provides to the customers facilities to create his own tools to monitor VSAM events and optimize DASD space usage.

New VSAM Spacemap PRODEXIT

IJBVINF points to the communication area (input area). The area holds the information shown in the following table at exit entry.

Field	Size	Description
IJBVLENV	H	Length of area
IJBVPIK	H	Updated by supervisor. PIK of current task
IJBVTIK	H	Updated by supervisor. TIK of current task
	H	Reserved
IJBVVER	X	Version of the vendor info block, currently x'00'
IJBVVFLG	X	Flags with values as follows:
IJBVVDEL X'80'		ON if extent is to be deleted, otherwise extent is to be allocated or suballocated
IJBVVCYL X'40'		ON if extent is specified in cylinders, otherwise allocation units are tracks
IJBVVFBA X'20'		ON if extent is on an FBA device
IJBVVSE X'10'		ON for anonymous data space extents, otherwise extent is suballocated for a named cluster component
IJBVVVOL	CL6	Volume serial number
IJBVVVCT	0XL4	Device class and type as after the GETVCE macro
IJBVVVD1	X	Device operational character (as DCTUFLG)
IJBVVVD2	X	Device optional features (as DCTUOPT)
IJBVVVDC	X	Device class (as DCTUDCL), X'21' for FBA devices
IJBVVVDT	X	Device type (as DCTUTYP)
IJBVVVCN	F	Number of cylinders on the volume.
IJBVVVTN	H	Number of tracks per cylinder
IJBVVVBN	H	Number of blocks per track on FBA disks or number of bytes per track on ECKD
IJBVVEXB	F	Extent begin, number of starting allocation unit (*** track or cyl)
IJBVVEXS	F	Extent size, number of allocation units
IJBVVCNM	CL44	Catalog name
IJBVVDNM	CL44	If is OFF - data set name of the cluster component as appeared in LISVTOC, otherwise one of the following strings: "DEFINE CATALOG", "DEFINE SPACE","DELETE CLUSTER","DELETE SPACE"

New VSAM Spacemap PRODEXIT

Notes:

- Any return code setting in IJBVRC is ignored

- At catalog creation, the catalog components which appeared in the LISTCAT as VSAM.CATALOG.BASE.INDEX and VSAM.CATALOG.BASE.DATA are reported by the exit as a single extent named VSAM.CATALOG.BASE

- When a catalog is deleted, the exit reports that as a single event. Since the catalog deletion can cause deletion of several data space extents on several volumes, the fields IJBVVVOL, IJBVVVCT, IJBVVVTN, IJBVVVTN, IJBVVVBN are set to binary zeroes, the fields IJBVVEXB and IJBVVEXS are set to -1.

New VSAM Spacemap PRODEXIT

How to use Prodexit:

- Prepare a program, which receives PRODEXIT data and is using it (for example, print it)

- Generate a phase and put it into SVA

- Enable PRODEXIT (using an enabling program)

- Run a test, which is to be investigated by VSAM PRODEXIT

- Disable PRODEXIT

New VSAM Spacemap PRODEXIT

Minimal skeleton for enabling PRODEXIT:

1. **PRODID DEFINE,AREA=PRODIDAREA**

   Definition of a visit card and getting a TOKEN (XX)

2. **PRODEXIT DEFINE,AREA=DEFEX1**

   Definition of Prodexit in the class=VSAM, subclass=IJBVVEXU

3. **PRODEXIT ENABLE**

   Enabling of Prodexit

4. **PRODEXIT DELETE**

   Disabling and deletion of PRODEXIT

5. **PRODID DELETE,TOKEN=(XX)**

   Deletion of visit card of TOKEN (XX)

Please find the information about macros for PRODEXITs in "Preparing a product for VSE".
http://publibz.boulder.ibm.com/epubs/pdf/iespve10.pdf

Soon there will be a more detailed description of the new PRODEXIT available on
the z/VSE home page: http://www.ibm.com/VSE

Task ID for VSAM Lock requests

- **For VSAM X'A8 Lock requests the task id of the owner of the lock will be returned in case the lock cannot be acquired because the resource is locked already by another task.**

Advantages:

- **This information will help to find the reason for locked tasks without the necessity to use the LOCKTRACE on all VSAM locking activities.**

Examples:

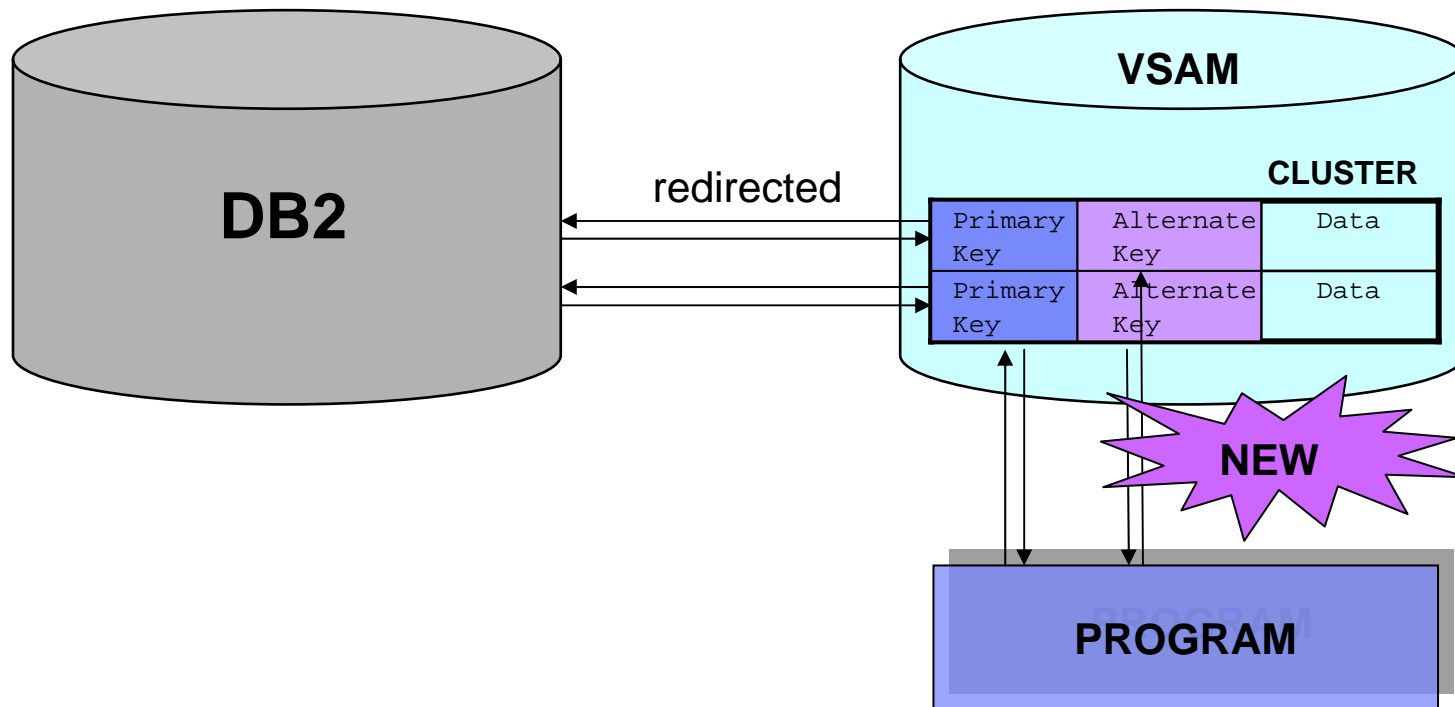**Trying to open a file, which is already in use within 1 VSE system:**

```
Y2 0047 4228I FILE OPEN ERROR X'A8'(168) CAT=IJSYSCT
(OPNH1-45) FILE ALREADY OPEN IN ANOTHER PARTITION, RC X'04' TASK X'0020'
```

Trying to open a file, which is locked on a different VSE system (shared system):

```
Y1 0045 4228I FILE OPEN ERROR X'A8'(168) CAT=
(OPNH1-45) FILE ALREADY OPEN IN ANOTHER PARTITION, RC X'04' TASK X'FFFF'
```

New VSAM Redirector AIX Support

- **VSE/VSAM redirector provides the capability to perform output requests to redirected KSDS cluster over the PATH using AIX.**

New VSAM Redirector AIX Support

To perform output requests to redirected KSDS cluster over the PATH using AIX, user should perform the following tasks:

Mapname:	**TSTKSDS**	
Catalog:	**CATNAME**	
Cluster:	**CLUSNAME**	
System:	**VSEXXX**	

1. **DEFINE and BUILD AIX right after loading cluster with DUMMY record**

2. **Indicate AIX key field in the MAP file for redirected cluster**

Fieldname	Type	Offset	Length
prefix	STRING	0	4
aix1	STRING	0	6
key	STRING	4	8
aix2	STRING	9	3
suffix	STRING	12	28

3. **Point AIX key field while creating DataBase Tables (Create DBTables program 'create.bat')**

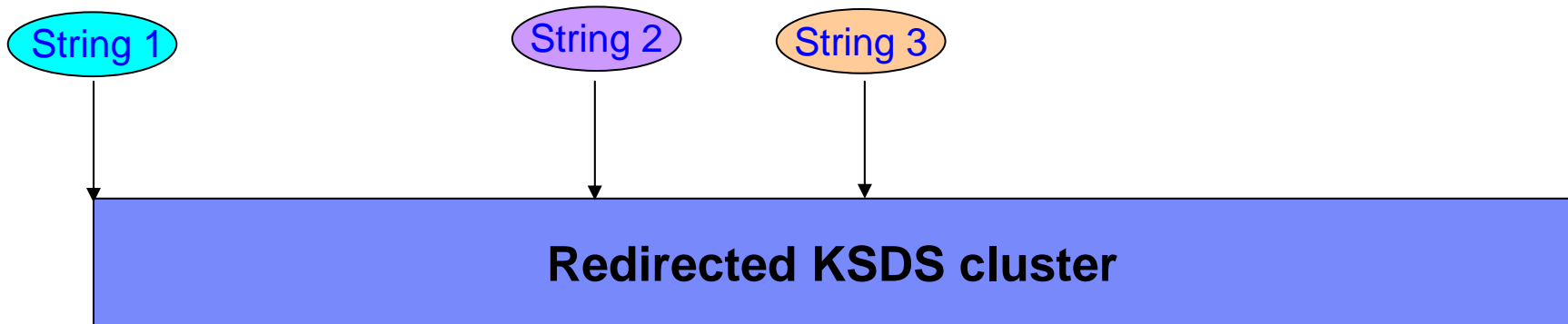# New VSAM Redirector AIX Support

- **Support of concurrent access with multiple strings to Redirected KSDS clusters is provided (over base cluster or path).**

Advantage:

User is capable to keep separate positioning information for each string.

Notes:

- **User should specify the number of strings with STRNO parameter of ACB macro.**
- **MAX 255 strings.**
- **User can not use primary and AIX at the same time.**

String 1   String 2   String 3

Redirected KSDS cluster

Latest Service for z/VSE 4.1 VSAM (91C)

- **DY46943**/UD53371   0C4 Pgm Check when Processing a Dummy USB Entry After AIX Failed to OPEN

- **DY46942**/UD53370   Performance Degradation with Certain Applications

- **DY46918**/UD53365   LOOP Between CICS/TS and VSE/VSAM attempting to retry Exclusive Control Error

- **DY46836**   Program Check in IKQAIX attempting Journaling on Alternate Index

- **DY46913**/UD53354   RESTORE Hang After Secondary Allocation Failure by Specifying a High Number of Data Buffers

- **DY46859**/UD53356   SNAP13 for Redirector

- **DY46861**/UD53311   Invalid FREEVIS After Unsuccessful GETVIS

- **DY46899**/UD53345   Skip SDUMP for Invalid RBA Case if RBA Came from Application

- **DY46893**/UD53339   Fixed-Point Divide Exception on PUT for an RRDS CLUSTER

- **DY46835**/UD53319   RECMAP Error Message Does Not Set Correct MAXCC

- **DY46852**/UD53305   Progchk (Protection Exception) During VSE/VSAM OPEN

- **DY46878**/UD53332   Restrict SDUMPS in Some Invalid RBA Cases

- **DY46786**/UD53251   Progchk in IKQVRM Accessing AIX Cluster

QUESTIONS ?

Stev Glodowski
glodowsk@de.ibm.com