z390/zVSAM V2

Catalog

Automated Software Tools Corporation

Catalog and zVSAM Structure

The catalog is currently implemented as one or more assembled modules.
A catalog dataset is on our wish-list

The DEFINE macro described below differs from the mainframe version, not only because of PC/Mainframe file definitions, but because we have constructed the VSAM datasets differently

Despite these differences we have strived to maintain all forms of application access and update to all types of VSAM datasets in conformity with IBM's specifications

The concept of Control Interval has been replaced by Data Blocks which have similarities
There is no exact equivalent of a Control Area, but the parameters DATA and INDEXFREEBLOCKS allow interspersed empty blocks

The Catalog structure is as follows:

```
   DEFINE CATALOG,NAME=,VERSION= name the catalog and version Id
   DEFINE CLUSTER, AIX, PATH     define the components
   DEFINE END                    end the definition
```

DEFINE
CATALOG
CLUSTER
ALTERNATEINDEX or AIX
PATH
END

CATALOG,NAME=,VERSION=

Must be the first entry.
NAME= is mandatory

VERSION is optional and should be allowed to default
Default VERSION is 2

CLUSTER

NAME= is mandatory

DATABLOCKSIZE=
The initial data blocksize setting, this may be modified by other parameters
The parameter may be specified in bytes or as nnnnK
Minimum 512 bytes, maximum 4096K
Default=4K

INDEXBLOCKSIZE=
The initial index blocksize setting, this may be modified by other parameters
The parameter may be specified in bytes or as nnnnK
Minimum 512 bytes, maximum 4096K
Default=4K

DATAADJUST=YES/NO
Subject to rules outlined in the zVSAM Technical Guide, the DATABLOCKSIZE may be reduced to optimise it
Default=NO

INDEXADJUST=YES/NO
Subject to rules outlined in the zVSAM Technical Guide, the INDEXBLOCKSIZE may be reduced to optimise it
Default=NO

DATAFREESPACE=nn

Subject to rules outlined in the zVSAM Technical Guide, a percentage of the total free space within a data block is reserved for expansion
Permitted values are 0-99
Default=0

INDEXFREESPACE=nn

Subject to rules outlined in the zVSAM Technical Guide, a percentage of the totalfree space within an index block is reserved for expansion
Permitted values are 0-99
Default=0

DATAFREEBLOCKS=(x,y)

Subject to rules outlined in the zVSAM Technical Guide, after every y data blocks are written, x empty blocks are written to facilitate expansion
Maximum values for x and y are 65535
Default=(0,0)
Note: The values (x,0) are permitted, this causes x empty blocks to be written before the first one

INDEXFREEBLOCKS=(x,y)

Subject to rules outlined in the zVSAM Technical Guide, after every y index blocks are written, x empty blocks are written to facilitate expansion
Maximum values for x and y are 65535
Default=(0,0)
Note: The values (x,0) are permitted, this causes x empty blocks to be written before the first one

INDEX=INDEXED Create a KSDS
INDEX=NONINDEXED Create an ESDS
INDEX=NUMBERED Create an RRDS
INDEX=LINEAR Create an LDS (not likely to be supported)

RECORDSIZE=n Fixed length
RECORDSIZE=(avg,max) Variable length

Specifies the record length(s) in bytes
If two parameters are present the dataset is assumed to be variable
Maximum value is 4GB

SPANNED=YES/NO
Subject to rules outlined in the zVSAM Technical Guide, records may be split between data blocks and segment blocks
Default=NO

KEYS=(length,offset)
For KSDS only
The length and offset of the key within the record

REUSE=YES/NO
The cluster is considered empty when opened
Default=NO

DTADSN=
Override for the data file, must have the full drive:\path\file.sfx
Must not be the same as IDXDSN=
This override will be used to open the data file and be used in the Prefix Block

IDXDSN=
Override for the index file, must have the full drive:\path\file.sfx
Must not be the same as DTADSN=
This override will be used to open the index file and be used in the Prefix Block

AIX

NAME= is mandatory

DATABLOCKSIZE=
The initial AIX data blocksize setting, this may be modified by other parameters
The parameter may be specified in bytes or as nnnnK
Minimum 512 bytes, maximum 2048K
Default=4K
Note: When MAXELEMENTS= is specified the meaning of DATABLOCKSIZE changes, click here to go there

INDEXBLOCKSIZE=

The initial AIX index blocksize setting, this may be modified by other parameters
The parameter may be specified in bytes or as nnnnK
Minimum 512 bytes, maximum 4096K
Default=4K

DATAADJUST=YES/NO

Subject to rules outlined in the zVSAM Technical Guide, the DATABLOCKSIZE may be reduced to optimise it
Default=NO

INDEXADJUST=YES/NO

Subject to rules outlined in the zVSAM Technical Guide, the INDEXBLOCKSIZE may be reduced to optimise it
Default=NO

DATAFREESPACE=nn

Subject to rules outlined in the zVSAM Technical Guide, a percentage of the total free space within a data block is reserved for expansion
Permitted values are 0-99
Default=0

INDEXFREESPACE=nn

Subject to rules outlined in the zVSAM Technical Guide, a percentage of the total free space within an index block is reserved for expansion
Permitted values are 0-99
Default=0

DATAFREEBLOCKS=(x,y)

Subject to rules outlined in the zVSAM Technical Guide, after every y data blocks are written, x empty blocks are written to facilitate expansion
Maximum values for x and y are 65535
Default=(0,0)
Note: The values (x,0) are permitted, this causes x empty blocks to be written before the first one

INDEXFREEBLOCKS=(x,y)

Subject to rules outlined in the zVSAM Technical Guide, after every y index blocks are written, x empty blocks are written to facilitate expansion
Maximum values for x and y are 65535
Default=(0,0)
Note: The values (x,0) are permitted, this causes x empty blocks to be written before the first one

KEYS=(length,offset)

The length and offset of the alternate key within the base record

REUSE=YES/NO

The AIX is considered empty when opened
Default=NO

DTADSN=

Override for the AIX data file, must have the full drive:\path\file.sfx
Must not be the same as IDXDSN=
This override will be used to open the data file and be used in the Prefix Block

IDXDSN=

Override for the AIX index file, must have the full drive:\path\file.sfx
Must not be the same as DTADSN=
This override will be used to open the index file and be used in the Prefix Block

RELATE=clustername

Mandatory and must have a valid cluster name within the same catalog

UNIQUEKEY=YES/NO

The alternate keys are/are not unique
Default=YES

MAXELEMENTS=n

Can only be specified when UNIQUEKEY=NO
An optimum DATABLOCKSIZE is calculated and used
If DATABLOCKSIZE= is specified this will act as a minimum
The parameter may be specified in bytes or as nnnnK
Maximum value is 2048K
Default=0 and the supplied DATABLOCKSIZE is used

UPGRADE=YES/NO

The AIX has/has not the potential to be updated in line with updates to the base cluster
Default=YES

PATH

NAME= is mandatory

ENTRY=name

Mandatory and must have the name of an AIX within the same catalog

UPDATE=YES/NO

Allows the associated AIX to be updated in line with updates to the base cluster
Default=YES

END

Defines the end of definitions for this catalog

Change Summary

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Credits

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