



## The Best of What's New in DFSMsrm!

*Samuel Smith*

*IBM*

*August 12th, 2015*

*Session Number: 17813*

*ssmith@us.ibm.com*



SHARE is an independent volunteer-run information technology association that provides **education, professional networking and industry influence.**



# Agenda

- **Retention Method**
  
- **V2R1**
  - LASTREF
  - RETAINBY
  - NEW MESSAGES
  - COEXISTENCE
  - CONVERSION
  - FORCE TCB
  
- **V2R2**
  - WHILECATALOG
  - UXTABLE
  - COEXISTENCE

# RETENTIONMETHOD(EXPDT | VRSEL)

- Introduced in release V1R13
- DFSMSrmm provides two retention methods for retaining tape data sets
- **EXPDT(NEW)**
  - Allows expiration to be on a specified date
    - Using the expiration date you set
    - All files of a multi volume data set will have the same expiration date
- **VRSEL**
  - Uses vital record specifications
  - Based on a calculated retention date

# RETENTIONMETHOD(EXPDT | VRSEL)

- Set **RETENTIONMETHOD** in parmlib as a system-wide default
- Use **EDG\_EXIT100** installation exit to set the retention method to be used for new tape data sets
- If **EXPDT** is in effect
  - Data sets and volumes are not processed during VRSEL inventory management
- If **VRSEL** is in effect
  - Matches data sets and volumes to vital record specifications

# RETENTIONMETHOD(EXPDT | VRSEL)

- **RETENTIONMETHOD** cannot be specified for a **SCRATCH** volume unless the **STATUS** operand is also specified
- Specify **EXPDT** operand only for the first volume in a volume set, other volumes in the set assume the same retention method
- Abbreviate using **RM**



# RETENTIONMETHOD(EXPDT | VRSEL)

- **DFSMShsm**(and similar applications) should use the **EXPDT** retention method
  - Minimize the overhead caused by running **VRSEL**
  - Changes to **VRSeS** will not affect **EXPDT**-managed data sets and volumes
  - Always know when a volume will expire
  
- All systems need to be V1R13 or higher when using **RM(EXPDT)**

# RETENTIONMETHOD(EXPDT | VRSEL)

- **LISTCONTROL**

- Field in BLACK added

```
...
System options:
PARMLIB Suffix   = C1
Operating mode   = P      Retention period: Default = 6           Maximum = 6666
                                   Catalog = 12           hours
                                   Retention method: Method = EXPDT

Control data set name           =
Journal file data set name     =
Journal threshold               = 0%
Catalog SYSID                  = Set
Scratch procedure name         = S1ATL008
Backup procedure name          =
IPL date check                 = N      Date format           = J      RACF support         = P
SMF audit                      = 0      SMF security          = 249   CDS id               = CTEST
MAXHOLD value                  = 250    Lines per page       = 54    System ID            = EZU34
...
```



# RETENTIONMETHOD(EXPDT | VRSEL)

- **LISTVOLUME**

- Fields in BLACK added

```
Volume information:
Volume = JJC024   VOL1 =           Rack = JJC024   Owner   = RMMUSER
  Type = PHYSICAL           Stacked count = 0           Jobname = D016216J
  Worldwide ID =                               WORM    = N
Creation:  Date = 08/28/2011  Time = 04:49:14  System ID = W98MVS2
Assign:    Date =             Time =             System ID = W98MVS2
                                         User ID  =

Expiration date = 09/02/2016 Original      =
      set by = OCE_JFCB
Retention date  =             Set retained = NO
Retention method= VRSEL
      set by = OCE_DEF
Data set name = RMMUSER.TEST.CBR
...
```

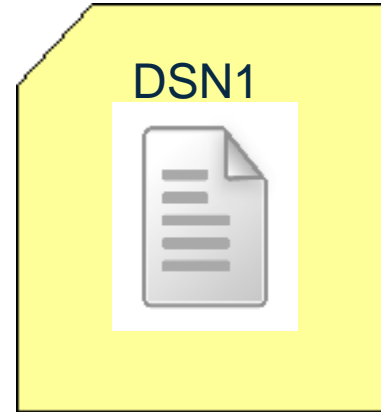
# V2R1 – LASTREF extra\_days

- New Attribute in V2R1
- Add extra days to the data set record based on reference
- Only for volumes managed by **EXPDT**
- Manage data based on last read/write date
  - Number of days to be added
- **EXPDT** updated dynamically after each reference
  - No need to run EDGHSKP

## V2R1 – LASTREF extra\_days

- **LASTREF** extra days can be set explicitly
  - **RMM ADDDATASET**
    - When the data set is created
  - **RMM CHANGEDATASET**
    - Anytime for a data set retained by **EXPDT**
- Will be set via **PARMLIB**
  - When no management class is in play
  - Change **RM** from **VRSEL** to **EXPDT**
  - When an **AD** is issued without **LASTREF**
- Can also be set via the **Management Class**
  - Set via **MCATTR** parmlib option
  - When there is a value in Expiry field after days non-usage

# V2R1 – LASTREF extra\_days



Vol001

## Read/Write data set

- |                                   |                                    |                                    |
|-----------------------------------|------------------------------------|------------------------------------|
| • <b>Creation date</b> = 2011/001 | • <b>Last Read date</b> = 2011/008 | • <b>Last Read date</b> = 2011/010 |
| • <b>EXPDT</b> = <b>2011/010</b>  | • <b>EXPDT</b> = <b>2011/013</b>   | • <b>EXPDT</b> = <b>2011/015</b>   |
| • <b>LASTREF</b> = 5              | • <b>LASTREF</b> = 5               | • <b>LASTREF</b> = 5               |

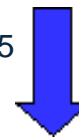
EXPDT  
2011/010



EXPDT  
2001/013



EXPDT  
2001/015



Create 2011/001

Complete your session evaluations online at [www.SHARE.org/Orlando-Eval](http://www.SHARE.org/Orlando-Eval)



Read 2011/008



Read 2001/010



EXPDT FINAL 2011/015



8/5/2015

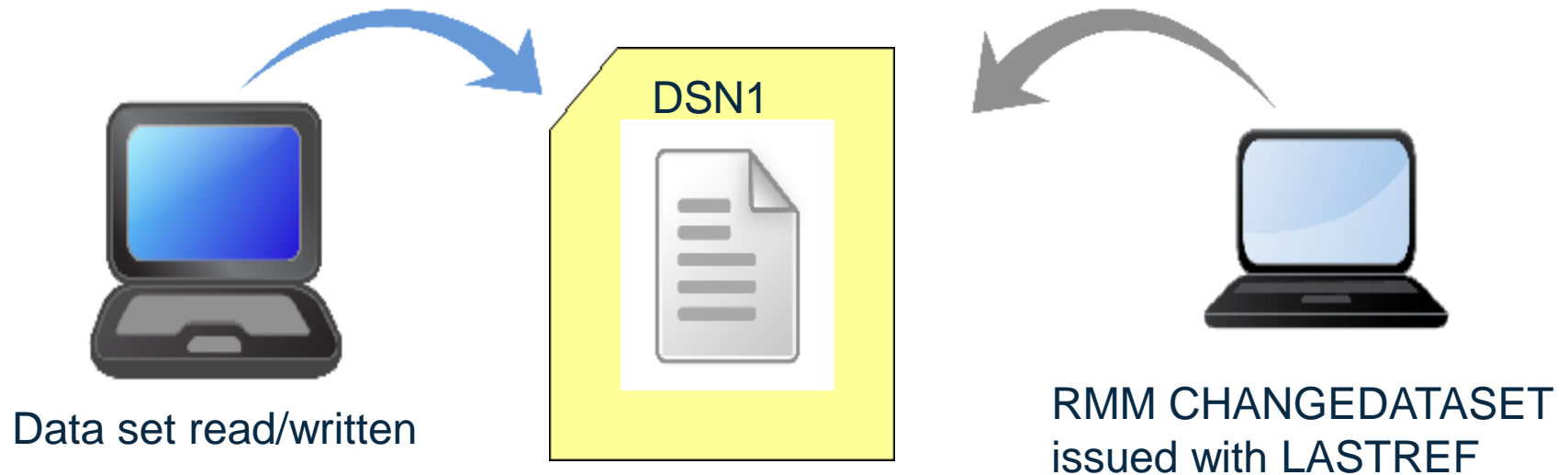
# V2R1 – LASTREF extra\_days

- **LASTREF** extra days data set attribute
- Kept equal for all files on a multi-volume data set
  - As long as it is retained by **VOLUME** or **SET**
- The **LASTREF** that will keep the volume the longest is propagated to all volumes in a set
  - No additional processing is necessary
  - If the volume is retained by **FIRSTFILE**
  - Only the first file is relevant for the volume set
- Field names in SMF mapping – Reporting Manual
  - **MDESB\_LASTREF** - Data set
  - **MVESB\_LASTREF** - Volume

Complete your session evaluations online at [www.SHARE.org/Orlando-Eval](http://www.SHARE.org/Orlando-Eval)

# V2R1 – LASTREF extra\_days

- **EXPDT** recalculated if data set is referenced or CD issued



- DS is referenced
  - Current date/time + LASTREF extra days
- CHANGEDATASET is issued
  - Current Expiration date/time + LASTREF extra days

# V2R1 – LASTREF extra\_days – CD Examples

- Add 15 extra days
  - **RMM CD dsname .... LASTREF(15)**
- Set EXPDT and clear the LASTREF
  - **RMM CD dsname .... EXPDT(2012/001) NOLASTREF**
- Set EXPDT but do not change LASTREF
  - **RMM CD dsname... EXPDT(2012/001)**
  - LASTREF changes when data set is accessed
- Set LASTREF to NULL
  - **RMM CD dsname ... NOLASTREF**
  - EXPDT remains unchanged

Complete your session evaluations online at [www.SHARE.org/Orlando-Eval](http://www.SHARE.org/Orlando-Eval)

# V2R1 – LASTREF extra\_days – RM Examples

- If you change the RM from EXPDT to VRSEL
  - LASTREF extra days is reset
    - **CV volume RM(VRSEL)**
  
- If you change RM from VRSEL to EXPDT
  - LASTREF extra days set by PARMLIB options
  - Can change later with the CD command
    - **CV volume RM(EXPDT)**
    - **CD dsname LASTREF(5)**



# V2R1 – LASTREF extra\_days - Syntax

## PARMLIB

```

OPTION >---+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
          |                                           .-VRSEL-----)-.          |
          |                                           |
          |   +-RETENTIONMETHOD+- (-+-----+-----+-----+-----+-----+-----+-----+
          |   '-RM-----'          +-EXPDT(-| EXPDT retention options |-)+
  
```

## EXPDT options

```

+---NOLASTREF-----+
<+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
  '---LASTREF(--extra_days---)---' |           , -VOLUME----, |
                                     +---RETAINBY (-+-----+-----+-----+-----+
                                     +-SET-----+
                                     '-FIRSTFILE-'
  
```

```

+---LASTREF(parmlib default)---+
ADDDATASET--+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
          |                                           |
          |   +---NOLASTREF-----+
          |   '---LASTREF(extra_days)-----'
  
```

```

CHANGEDATASET--+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
          |                                           |
          |   +---NOLASTREF-----+
          |   '---LASTREF(extra_days)-----'
  
```

# V2R1 – LASTREF extra\_days - Messages

- New Messages
  - **EDG3367I** LASTREF OR NOLASTREF CAN ONLY BE SPECIFIED FOR DATA SETS ON RETENTIONMETHOD(EXPDT) VOLUME
  - **EDG3368I** FORCE OPERAND REQUIRED
- Changed Message
  - **EDG3022E** THE INSTALLATION DEFINED MAXIMUM RETENTION PERIOD MUST NOT BE EXCEEDED
    - Defined by **MAXRETPD**

# V2R1 – LASTREF extra\_days - Coexistence

- APAR **OA35808**
- Allows you to use LASTREF back to release V1R10
  - Associated PTFs
    - RA10 PSY **UA68801**
    - RB10 PSY **UA68802**
    - RC10 PSY **UA68803**
    - RD10 PSY **UA68804**
- Required to maintain consistency for multi-volume/data sets created at V2R1
- The default for new single data sets have LASTREF extra days 0
- When existing multi volume data set is enlarged with MOD the LASTREF is set from existing previous data set record

# V2R1 – RETAINBY

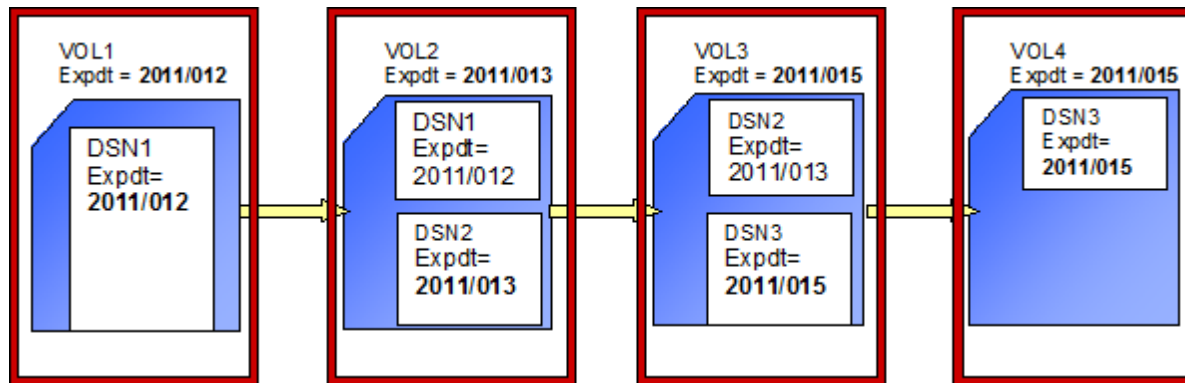
- **RETAINBY** determines whether volumes are retained individually or as a set
- Retention method affects how multivolume sets are retained
- **RETAINBY** operand for **EXPDT** retention method volume sets only
- ( **VOLUME** | **FIRSTFILE** | **SET** )

# V2R1 – RETAINBY

- **RETAINBY** operand cannot be specified for a volume managed by **VRSEL**
- **RETAINBY** operand cannot be specified if the **PREVVOL** operand is specified
- **RETAINBY** operand is ignored if you use **STATUS(SCRATCH)** or **STATUS(VOLCAT)**
- **RETENTIONMETHOD(EXPDT(RETAINBY(value)))** specified in PARMLIB
  - If RETAINBY is omitted, use what is specified in parmlib

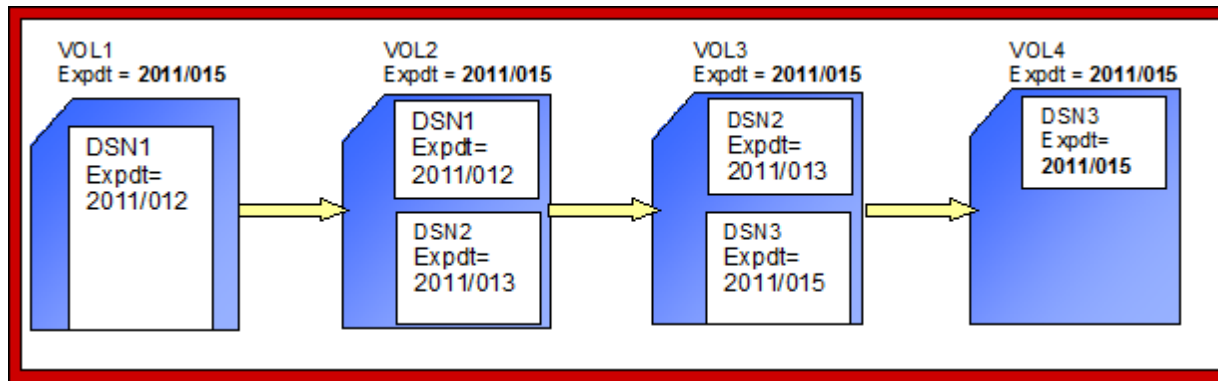
# V2R1 – RETAINBY(VOLUME)

- **EXPDT** is considered for each volume separately
- Each file on a volume can increment the volume **EXPDT**
- Specify **RETAINBY** for first volume in a multivolume sequence
- Volumes added to the set will assume the same **RETAINBY** value



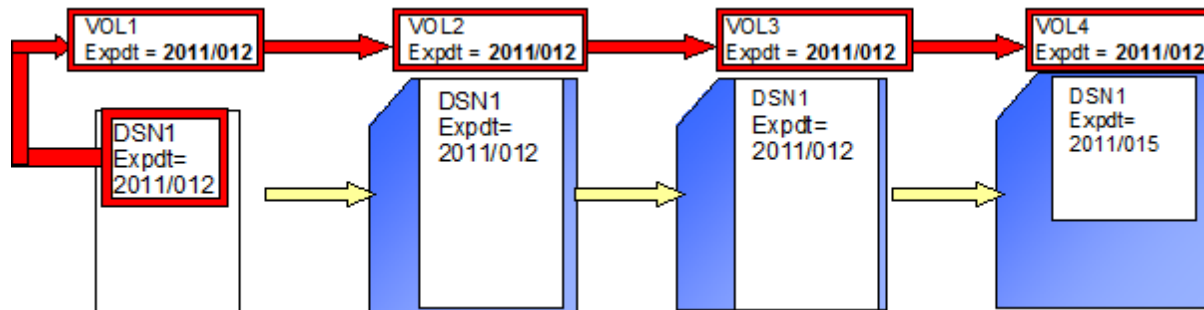
# V2R1 – RETAINBY(SET)

- DFSMSrmm uses the highest expiration date of all volumes
- Every file on a volume set can increment **EXPDT**
- All volumes in the set will have the same **EXPDT**
  - Volumes released on same run of **EXPROC**



# V2R1 – RETAINBY(FIRSTFILE)

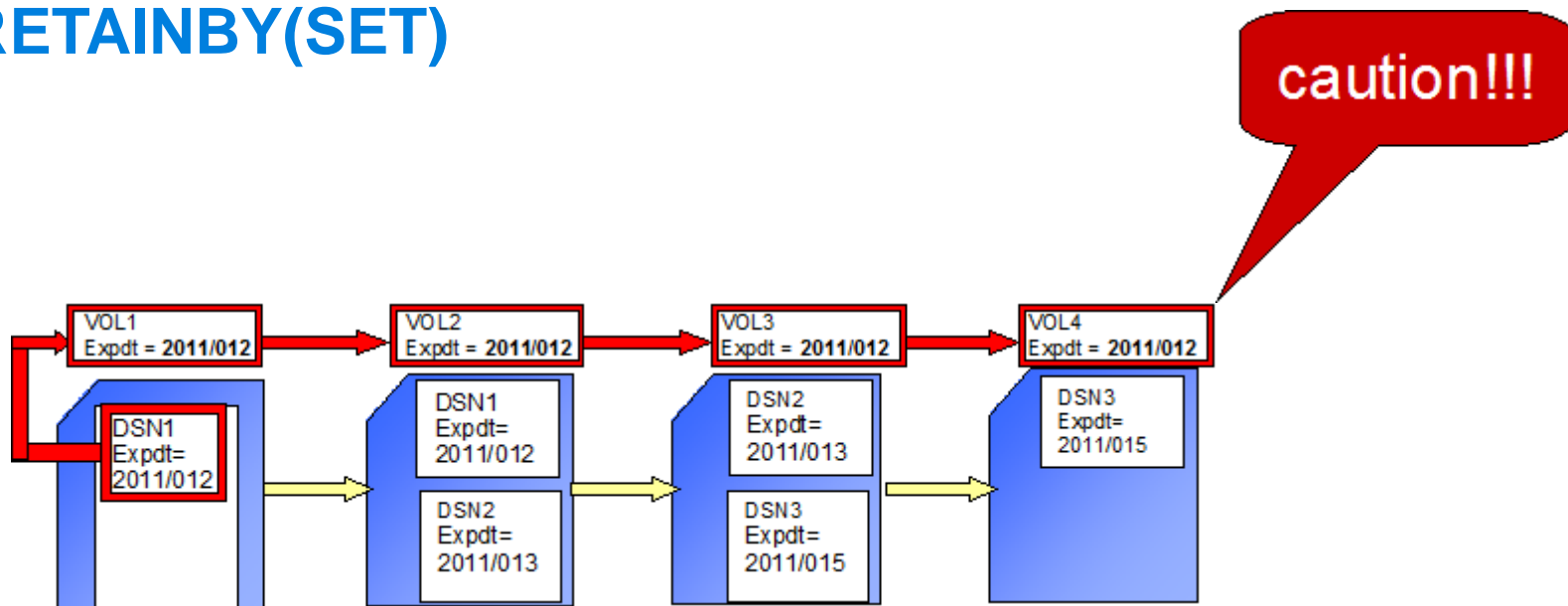
- **EXPDT** of the first file is used to set expiration for single/multivolume sets
- All volumes in a multivolume set will have the same **EXPDT**
  - Volumes released on same run of **EXPROC**





# V2R1 – RETAINBY(FIRSTFILE)

- **FIRSTFILE** can cause discrepancies between volumes and data sets
- Data sets added later to a volume or to a multivolume set can have a different **EXPDT**
- In this case it may be better to use **RETAINBY(VOLUME)** or **RETAINBY(SET)**



## V2R1 – RETAINBY

- Only used with the **EXPDT** retention method
- Can be set explicitly with the **RMM AV** or **CV** command
  - Cannot explicitly be set for volumes other than the first
  - Propagated to all other volumes in the same volume set
- Can also be set when specified in PARMLIB for the first volume in a set
  - **OPTION RM(EXPDT(RETAINBY(value)))**
    - When **ADDVOLUME** was specified w/out **RETAINBY**
    - When a volume record is created due to **OCEOV** processing
    - When **RM** changes changed from **VRSEL** to **EXPDT**, and **RETAINBY** was not specified



# V2R1 – RETAINBY – outputs

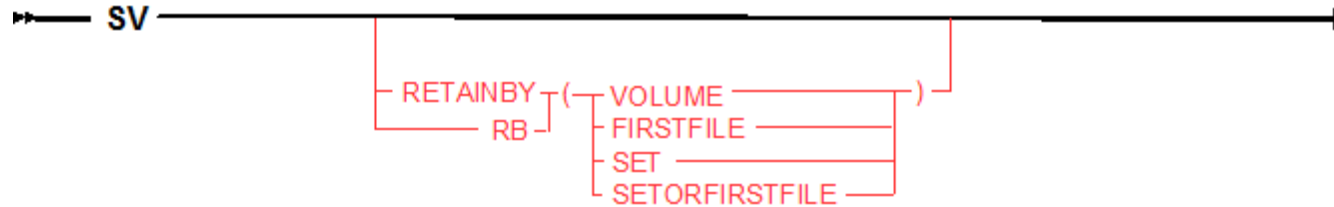
- **LISTVOLUME**

```
Volume information:
Volume = A03700    VOL1 =          Rack =          Owner = RMMUSER
  Type = PHYSICAL          Stacked count = 0          Jobname = SSTEINHA
  Worldwide ID =          WORM = N
Creation:  Date = 2011/207    Time = 03:36:16    System ID = EZU0037
Assign:    Date = 2011/207    Time = 03:36:16    System ID = EZU0037
                                     User ID = RMMUSER
Expiration date = 2011/237    Original = 2011/237
      set by = OCE_JFCB
Retention date =          Set retained = NO
Retention method= EXPDT
      set by = LCS_DEF
      retain by = FIRSTFILE
Data set name = DS1
...
```

# V2R1 – RETAINBY – outputs

- SEARCHVOLUME

– Return a list of volumes based on RETAINBY attribute



```

EXPDT retained volumes subject to EXPDTPROP      09/03/10      06:28:51      - 1 -
Status: RELEASED
VOLSER VSEQ DSNAME                                JOBNAME  EXPRSN  ASSIGNED  EXPDT      RM RB RETDATE  ACTIONS  LOCATION HOME  DEST  RLS ACT HOLD
-----
A01502  1 RMMUSER.A01502.A111111.B222222.C333333.D4444 RMMTEST1 X      2010/243  2010/245  V          SHELF  SHELF          S      N
A01503  1 RMMUSER.A01503.A111111.B222222.C333333.D4444 RMMTEST1 X      2010/243  2010/245  E V        SHELF  SHELF          S      N
A01504  2 RMMUSER.A01504.X111111.Y222222                RMMTEST1 X      2010/243  2010/245  E V        SHELF  SHELF          S      N
A01505  1 RMMUSER.A01505.X111111.Y222222                RMMTEST1 X      2010/243  2010/245  E S        SHELF  SHELF          S      N
A01506  1 RMMUSER.A01506.X111111.Y222222                RMMTEST1 X      2010/243  2010/245  V          SHELF  SHELF          OI N N
A01507  1 RMMUSER.A01507.X111111.Y222222                RMMTEST1 X      2010/243  2010/245  E F        SHELF  SHELF          R E N
A01508  1 RMMUSER.A01508                                X      2010/243  2010/246  V          SHELF  SHELF          S      N
A01509  2 RMMUSER.A01509                                X      2010/243  2010/246  V          SHELF  SHELF          S
A01510  3 RMMUSER.A01510                                X      2010/243  2010/246  V          SHELF  SHELF          S
A01511  4 RMMUSER.A01511                                X      2010/243  2010/246  V          SHELF  SHELF          S      N
A01512  1 RMMUSER.A01512                                X      2010/243  2010/245  E V        SHELF  SHELF          S      N
A01513  2 RMMUSER.A01519                                X      2010/243  2010/245  E V        SHELF  SHELF          S      N
Volumes in this status: 12

EXPDT retained volumes subject to EXPDTPROP      09/03/10      06:28:51      - 2 -
Status: NOCHANGE
VOLSER VSEQ DSNAME                                JOBNAME  EXPRSN  ASSIGNED  EXPDT      RM RB RETDATE  ACTIONS  LOCATION HOME  DEST  RLS ACT HOLD
-----
A01500  1 RMMUSER.A01500.DATA.SET1                        2010/243  2010/248  E V        SHELF  SHELF          S      N
A01501  1 RMMUSER.A01501                                2010/243  2010/249  V          SHELF  SHELF          S      N
A01514  1 RMMUSER.JUST.ANOTHER.DS                        2010/243  2010/248  V          SHELF  SHELF          S
A01515  1 RMMUSER.THE.LAST.ONE                            2010/243  2010/248  E F        SHELF  SHELF          S      N
Volumes in this status: 4
  
```

# V2R1 – RETAINBY - Syntax

- Specifies the default for the volume record **RETAINBY** attribute

PARMLIB

```

OPTION >-----+----->
          | .-VRSEL-----)--- |
          |'--+RETENTIONMETHOD--+ (-----)---'|
          |'-RM-----' +-EXPDT(-| EXPDT retention options |-)+
  
```

EXPDT retention options:

```

+---NOLASTREF-----+
<+-----+-----+-----+-----+-----+-----+-----+-----+-----+
'---LASTREF(--extra_days---)---' | , -VOLUME-----, |
                                +-RETAINBY (-----)-----+
                                +-SET-----+
                                +---FIRSTFILE---'
+---RETAINBY(-parmlib default-)-----+
ADDVOLUME---+-----+-----+-----+-----+-----+-----+-----+-----+
          |                                     |
          +---RETAINBY (--+---VOLUME-----+-) -----+
                    +---FIRSTFILE---+
                    +---SET-----+

CHANGEVOLUME---+-----+-----+-----+-----+-----+-----+-----+-----+
          +---RETAINBY (--+---VOLUME-----+-) +-
                    +---FIRSTFILE---+
                    +---SET-----'
  
```

# V2R1 – RETAINBY - Messages

- New Messages
  - **EDG3369I** FILE EXPIRATION ATTRIBUTES ACCEPTED BUT IGNORED FOR THE VOLUME EXPIRATION BECAUSE VOLUME IS RETAINED BY FIRSTFILE
  - **EDG3370I** RETAINBY CAN ONLY BE SPECIFIED FOR A RETENTIONMETHOD(EXPDT) VOLUME
  - **EDG3371I** RETAINBY CAN ONLY BE SPECIFIED FOR THE FIRST VOLUME IN A SET
  - **EDG3372I** CHANGE OF EXPIRATION DATE NOT ALLOWED FOR VOLUMES RETAINED BY FIRSTFILE

# V2R1 – RETAINBY - Coexistence

- APAR **OA35808**
- Allow you to use **RETAINBY** back to release V1R10
  - Required to maintain consistency for multi-volume/data sets created at V2R1
- When a data set is enlarged with **MOD** and a new volume record is added due to EOV, **RETAINBY** is set existing previous volume record
- When a volume is added to a set using the CV/AV PREVVOL
  - **RETAINBY** is set from the previous volume record
- A new single volume record created in a lower release will get **RETAINBY(VOLUME)** assigned
- Above assumes **EXPDT** retention method



# V2R1 – Conversion considerations

- **RETAINBY** and **LASTREF**
- Can be set by **CHANGEDATASET** and/or **CHANGEVOLUME**
- Possible to set during conversion(**EDGCNVT**)
  - If set during conversion, no additional updates required
  - Only for **EXPDT** retention method

## V2R1 – Conversion considerations

- Use the **EDGCNVT** program to set a default value
- Options added via SYSIN DD
  - **OPTION EXPDT\_RETAINBY**
  - **OPTION EXPDT\_LASTREF**
- For specific volumes or data sets use **EDGCLREC** and/or **EDGCDREC**
  - Records created during extraction
  - Used as input to the **EDGCNVT** program
  - **LVEXPDT\_RETAINBY** field in 'L record' EDGCLREC
  - **LDS1LRED** field in 'L record' EDGCLREC
  - **DSNLRED** field in 'D record' EDGCDREC

# V2R1 – Conversion considerations

- **OPTION EXPDT\_RETAINBY (VOLUME | FIRSTFILE | SET)**
- **VOLUME**
  - **EXPDT** set to maximum volume or data set expiration date
  - **VOLUME** is the default if **EXPDT\_RETAINBY** is omitted
- **FIRSTFILE**
  - **EXPDT** is set to the expiration of the first file on the volume or set
  - All volumes in a set will have the same expiration date
- **SET**
  - **EXPDT** set to the highest expiration date of all volumes/data sets
  - All volumes in a set will have the same expiration date

# V2R1 – Conversion considerations

- **OPTION EXPDT\_LASTREF extra\_days**
- **extra\_days**
  - Days that the data set will be retained after the data set was last referenced
  - Decimal number between 0 and 93000
- **EXPDT** is set to the maximum of **LASTREF extra\_days** and the data set expiration date
- 0 is the default if **LASTREF extra\_days** is omitted
  - Essentially EXPDT gets assigned the create date

# V2R1 – Conversion considerations

- **EDGCNVT** processing – **RETAINBY**
- Attribute set for single volume or of the first volume set by priority
  - 1. **LVEXPDT\_RETAINBY** field in **EDGCLREC**
  - 2. **SYSIN OPTION EXPDT\_RETAINBY** value
  - 3. **EXPDT\_RETAINBY VOLUME**
- Subsequent volumes of a multi-volume data set inherit the **RETAINBY** attribute from the first volume

# V2R1 – Conversion considerations

- **EDGCNVT** processing – **LASTREF**
- Attribute set for single volume or of the first volume set by priority
  - 1. **LDS1LRED/DSNLRED** field in **EDGCLREC** or **EDGCDREC**
  - 2. **SYSIN OPTION EXPDT\_LASTREF** extra\_days
  - 3. **NOLASTREF**
- Subsequent files of a multi-volume data set inherit the **LASTREF** extra days attribute from the first file of a multi volume data set

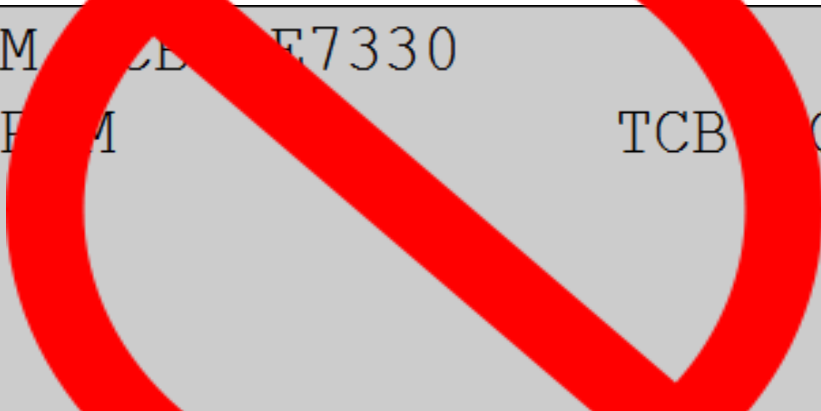
# V2R1 – Conversion considerations

- **New Message**
- **EDGCNVT-00180** Expiration date YYYY/ddd of volume nnnnnn is lowered to YYYY/ddd, which is the expiration date of first data set in volume set: dsname on volume nnnnnn.
  - Essentially a WARNING message
  - Indicates that the expiration date has been lowered
  - **EDGCNVT** detects that the volume **EXPDT\_RETAINBY** is **FIRSTFILE**
  - Updates all volume expiration dates to date of the first data set in the volume set
  - Sets a return code of **4**
    - You may want to check your input
  - Only see this message when the **EXPDT** is lowered

# V2R1 – Console Support

- Added the **FORCE TCB** command
- Forcing **DFRMM** address space tasks may cause integrity problems
- **DFRMM** Address Space is ineligible for the **FORCE TCB**

```
FORCE DFRMM CE E7330  
IEE841I DFRM TCB NON-FORCIBLE
```





# V2R2 – WHILECATALOG

- **EXPDT** retention method is fast and simple
  - Did not allow for Catalog control
- New **WHILECATALOG** attribute for datasets
- Catalog status can now control the expiration of volumes retained by the retention method **EXPDT**
- Useful for **GDG** datasets that get uncataloged automatically

# V2R2 – WHILECATALOG

- **WHILECATALOG(ON)**
  - Data sets will not expire if they are cataloged
  - Data sets never cataloged will expire on their expiration date
- **WHILECATALOG(UntilExpired)**
  - Data sets will expire on expiration date when cataloged
  - Data sets that become uncataloged will be eligible for expiration
  - Expiration date will decrease?
- **WHILECATALOG** can be set as default or via **CD** command



# V2R2 – WHILECATALOG – Parmlib Examples

- **EXPDT(GDG(WHILECATALOG(ON),RETPD(0))  
NOGDG(WHILECATALOG(ON),RETPD(0)))**
  - EXPDT specified in JCL, kept beyond EXPDT if cataloged
- **EXPDT(NOGDG(WHILECATALOG(UntilExpired),RETPD(PERMANENT)))**
  - EXPDT specified in JCL, expires on expiration date
- **EXPDT(GDG(WHILECATALOG(ON),RETPD(5)))**
  - By default GDGs are released after uncataloged
  - Keep 5 additional days after being uncataloged

# V2R2 – WHILECATALOG(ON)

Current Date – **2010/01/01**  
Expiration date already past(**DSN1/2**)  
Data sets held by Catalog = **2**  
Volume will not expire



## VOLUME 1

DSN1	DSN2
Cataloged: Yes EXPDT: 2009/01/01	Cataloged: Yes EXPDT: 2009/01/01

Current Date – **2010/01/02**  
Expiration date already past(**DSN2**)  
Data sets held by Catalog = **1**  
Volume will not expire



## VOLUME 1

DSN1	DSN2
Cataloged: <b>No</b> EXPDT: <b>2010/01/02</b>	Cataloged: Yes EXPDT: 2009/01/01

Current Date – **2010/01/03**  
Expiration date already past(**DSN1**)  
Data sets held by Catalog = **0**  
Volume ready to expire



## VOLUME 1

DSN1	DSN2
Cataloged: <b>No</b> EXPDT: 2010/01/02	Cataloged: <b>No</b> EXPDT: <b>2010/01/03</b>

# V2R2 – WHILECATALOG(UNTILEXPIRED)

Current Date – **2010/01/01**  
Vol. Exp. Date:2011/01/01(OrUncatlg)  
Volume will not expire

## VOLUME 1

DSN1	DSN2
Cataloged: Yes EXPDT: 2011/01/01	Cataloged: Yes EXPDT: 2011/01/01

Current Date – **2010/01/02**  
Vol. Exp. Date:2011/01/01(OrUncatlg)  
Volume will not expire  
DSN1 is uncataloged

## VOLUME 1

DSN1	DSN2
Cataloged: <b>No</b> EXPDT: <b>2010/01/02</b>	Cataloged: Yes EXPDT: 2011/01/01

Current Date – **2010/01/03**  
Vol. Exp. Date:**2010/01/03**  
Volume ready to expire  
DSN2 is uncataloged

## VOLUME 1

DSN1	DSN2
Cataloged: No EXPDT: 2010/01/02	Cataloged: <b>No</b> EXPDT: <b>2010/01/03</b>

**Volume expiration date decreases**

# V2R2 – WHILECATALOG – outputs

## • LISTCONTROL

```
Retention period: Default = 6      Maximum = NOLIMIT
                  Catalog = 12     hours
Use of Management Class Attributes = NONE
Retention method: Default = EXPDT
```

### RM(VRSEL) defaults:

```
Retain by          = VOLUME
Move By           = VOLUME
VRS selection      = NEW
VRS change        = INFO
VRSMIN action     = FAIL
VRSMIN count      = 1
VRS job name      = 2
GDG duplicate     = BUMP
GDG cycle by     = GENERATION
```

### RM(EXPDT) defaults:

```
Retain by          = VOLUME
LASTREF extra days = 0
Catalog Days      = 4
GDG      : WHILECATALOG = OFF
              RETPD      = 6
Non-GDG: WHILECATALOG = ON
              RETPD      = 6
```

# V2R2 – WHILECATALOG - outputs

- **LISTVOLUME**

```
Volume information:
Volume = 003186   VOL1 = INT001   Rack = 003186 Owner   = RMMUSER
  Type = PHYSICAL           Stacked count = 0           Jobname =
  Worldwide ID =                               WORM = N
Creation: Date = 08/28/2011 Time = 04:49:14 System ID = W98MVS2
Assign: Date   =                Time =                System ID = W98MVS2
                                   User ID   =

Expiration date = 09/02/2016           Original =
Expiration time = 06:57:06   Datasets Kept By Catlg: 0
      set by = OCE_JFCB
Retention date   =                Set retained = NO
Retention method= VRSEL
      set by = OCE_DEF
      retain by = FIRSTFILE
...
```



# V2R2 – WHILECATALOG - outputs

- **LISTDATASET**

```
Data set name = NISHINAL.TEST.ORDER
Volume       = BC0047                Physical file sequence number = 1
Owner        = RMMUSER                Data set sequence = 1
Create date  = 02/20/2015 Create time = 06:16:06      System ID =
W98MVS1
Expiration date      = 02/20/2016      Expir. time = 03:00:00
                set by      = OCE_DEF      Original expir.date =
LASTREF Extra Days  = 14                WHILECATALOG = OFF
Block size         = 80                Block count = 3456789012
.....
```

# V2R2 – UXTABLE

- Dynamic table
  - Retention policies
  - Special keyword dates
  - Assignment of scratch pool
- Permanent retention was not previously supported in the **UXTABLE**
- **EDGCVRSG** macro has been updated
- **RETPD=PERM** now supported

# V2R2 – WHILECATALOG - Coexistence

- APAR **OA46974**
  - z10 processor or higher
  - General-instructions-extension facility
- APAR **OA48120(PE)**
- z9 processor
- Volume kept by **WHILECATALOG=ON**
  - Will not get scratched by running EXPROC on a lower level system

# Questions?



Complete your session eval

8/5/2015

# Appendix

- **Publications(V2R1)**

- z/OS V2R1.0 DFSMSrmm Application Programming Interface(SC23-6872-00)
- z/OS V2R1.0 DFSMSrmm Managing and Using Removable Media(SC23-6873-00)
- z/OS V2R1.0 DFSMSrmm Implementation & Customization Guide(SC23-6874-00)
- z/OS V2R1.0 DFSMSrmm Reporting(SC23-6875-00)
- z/OS V2R1.0 DFSMSrmm Diagnosis Guide(SC23-6876-00)

- **Publications(V2R2)**

- z/OS V2R2.0 DFSMSrmm Implementation and Customization Guide (SC23-6874)
- z/OS V2R2.0 DFSMSrmm Managing and Using Removable Media (SC23-6873)
- z/OS V2R2.0 DFSMSrmm Application Programming Interface (SC26-7403)

# System z Social Media Channels

- Top Facebook pages related to System z:
  - [IBM System z](#)
  - [IBM Academic Initiative System z](#)
  - [IBM Master the Mainframe Contest](#)
  - [IBM Destination z](#)
  - [Millennial Mainframer](#)
  - [IBM Smarter Computing](#)
- Top LinkedIn groups related to System z:
  - [System z Advocates](#)
  - [SAP on System z](#)
  - [IBM Mainframe- Unofficial Group](#)
  - [IBM System z Events](#)
  - [Mainframe Experts Network](#)
  - [System z Linux](#)
  - [Enterprise Systems](#)
  - [Mainframe Security Gurus](#)
- Twitter profiles related to System z:
  - [IBM System z](#)
  - [IBM System z Events](#)
  - [IBM DB2 on System z](#)
  - [Millennial Mainframer](#)
  - [Destination z](#)
  - [IBM Smarter Computing](#)
- YouTube accounts related to System z:
  - [IBM System z](#)
  - [Destination z](#)
  - [IBM Smarter Computing](#)

- Top System z blogs to check out:
  - [Mainframe Insights](#)
  - [Smarter Computing](#)
  - [Millennial Mainframer](#)
  - [Mainframe & Hybrid Computing](#)
  - [The Mainframe Blog](#)
  - [Mainframe Watch Belgium](#)
  - [Mainframe Update](#)
  - [Enterprise Systems Media Blog](#)
  - [Dancing Dinosaur](#)
  - [DB2 for z/OS](#)
  - [IBM Destination z](#)
  - [DB2utor](#)



# Trademarks

The following are trademarks of the International Business machines Corporation in the United States and/or other countries.



<b>AIX*</b>	<b>DB2*</b>	<b>DFSORT</b>	<b>IBM*</b>	<b>Language Environment*</b>	<b>Redbooks*</b>	<b>System Storage</b>	<b>System z10 Business Class</b>	<b>z10 EC</b>
<b>BladeCenter*</b>	<b>DFSMS</b>	<b>Domino*</b>	<b>IBM eServer</b>	<b>MVS</b>	<b>REXX</b>	<b>System x*</b>	<b>Tivoli*</b>	<b>zEnterprise*</b>
<b>BookManager*</b>	<b>DFSMSdss</b>	<b>DS6000</b>	<b>IBM logo*</b>	<b>Parallel Sysplex*</b>	<b>RMF</b>	<b>System z</b>	<b>WebSphere*</b>	<b>zSeries*</b>
<b>CICS*</b>	<b>DFSMSshm</b>	<b>DS8000*</b>	<b>IMS</b>	<b>ProductPac*</b>	<b>ServerPac*</b>	<b>System z9</b>	<b>z10</b>	
<b>DataPower*</b>	<b>DFSMSrmm</b>	<b>FICON*</b>	<b>InfinBand</b>	<b>RACF*</b>	<b>SYSREXX</b>	<b>System z10</b>	<b>z10 BC</b>	

- Registered trademarks of IBM corporation

The following are 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. IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce. 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. Linux is a registered trademark of Linus Torvalds 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. Windows Server and the Windows logo are trademarks of the Microsoft group of countries. TIL 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. UNIX is a registered trademark of The Open Group in the United States and other countries. Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates. 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. Linear Tape-Open, LTO, the LTO Logo, Ultrium, and the Ultrium logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

- Other product and service names might be trademarks of IBM or other 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.

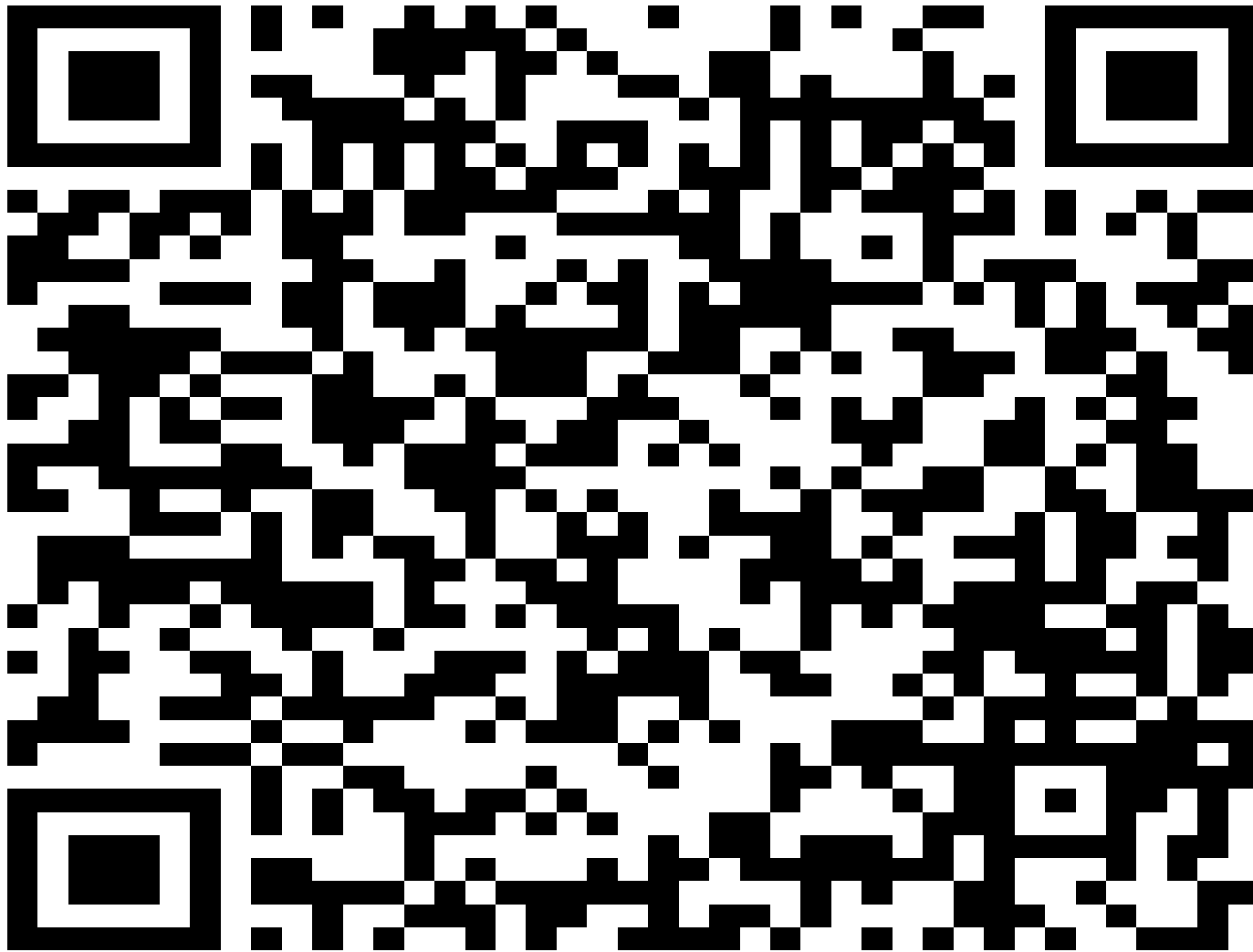
IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

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. This information provides only general descriptions of the types and portions of workloads that are eligible for execution on Specialty Engines (e.g. zIIPs, zAAPs, and IFLs) ("SEs"). IBM authorizes customers to use IBM SE only to execute the processing of Eligible Workloads of specific Programs expressly authorized by IBM as specified in the "Authorized Use Table for IBM Machines" provided at [www.ibm.com/systems/support/machine\\_warranties/machine\\_code/aut.html](http://www.ibm.com/systems/support/machine_warranties/machine_code/aut.html) ("AUT"). No other workload processing is authorized for execution on an SE. IBM offers SE at a lower price than General Processors/Central Processors because customers are authorized to use SEs only to process certain types and/or amounts of workloads as specified by IBM in the AUT.

Complete your session evaluations online at [www.SHARE.org/Orlando-Eval](http://www.SHARE.org/Orlando-Eval)

8/5/2015





Complete your session evaluations online at [www.SHARE.org/Orlando-Eval](http://www.SHARE.org/Orlando-Eval)

8/5/2015