

DFSMS[™]: Latest and Greatest - z/OS[®] 1.13 Overview

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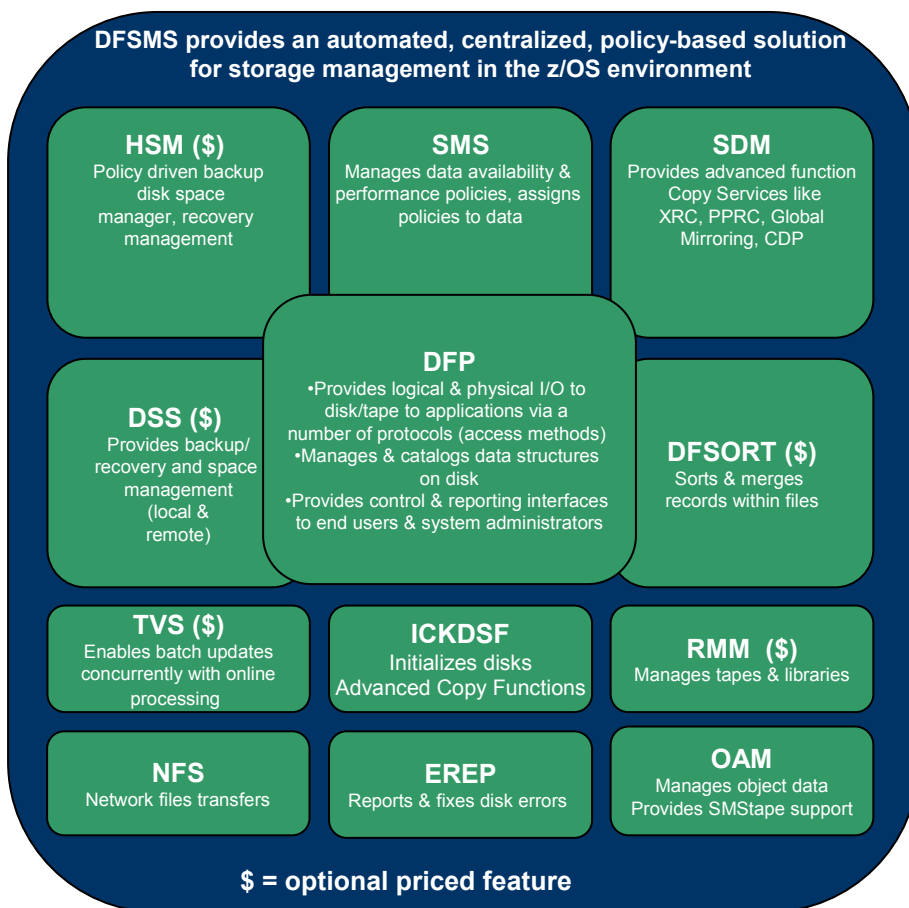
DFSMS[™]: Providing System Managed Storage on z/OS[®]

Storing, managing, protecting, and serving data on a zEnterprise System



DFSMS is the standard methodology worldwide for managing enterprise data and storage on the z/OS platform

DFSMS strategy addresses explosive growth and management of customer data



- **DFSMS drives value as the data hub for System z:**
 - **Creates integrated solutions by exploiting new hardware features**
 - Improved Security with exclusive media encryption capability, integration with z/OS Key Management
 - **Maintains leadership in policy based storage management**
 - Improved storage administrator productivity and simplified management of the z/OS environment
 - **Strengthens business resiliency by exploiting new opportunities and advancements in data protection solutions**
 - Point-in-time copy, fast replication, and continuous data mirroring functions while preserving consistency
 - **Supports growing businesses and mission critical workloads by providing continuous availability, scalability/performance and flexibility of storage and data**
 - Increased data storage capacity and scalability to cope with explosive growth of data volumes and database sizes
 - High Availability with simpler, faster, and more reliable recovery operations
 - Ability to cope with increased security and compliance requirements
- **Enables cross platform data and storage**
 - Data availability at all levels of the storage hierarchy

z/OS® DFSMS™ V1.13 Highlights

(September 2011)

- **DFSMSHsm**
 - DFSMSHsm CDS Backup Improvements
 - DFSMSHsm “On Demand” Migration
 - DFSMSHsm RAS and Usability Enhancements
- **DFSMSrmm**
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 - DFSMSrmm RAS Enhancements
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 - OAM Usability & Reliability Enhancements
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 - OCE Support for XTIOU and Uncaptured UCBs
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 - OCE FREEVOL=EOV Support
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 - Catalog Alias Constraint Relief
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 - SMS RAS Enhancements
- **PDSE**
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 - New PDSE Commands
 - PDSE Fairness/Sharing Policy
 - IEBCOPY Enhancements
- **DADSM / CVAE / Device Services**
 - DADSM / CVAE Availability Enhancements
 - Update Volume Information

z/OSMF DASD Management Update

- **z/OSMF DASD Management plug-in**
 - SPE PM40869 to enable plug-in has been withdrawn
 - Refer to Software Announcement 212-030 dated 2/14/2012
 - <http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS212-030&appname=USN>
- **DFSMS**
 - **Remove newly defined SMS pool storage group attributes (SMA attributes)**
 - New SMS storage group constructs were created in z/OS V1R13 in support of the z/OSMF DASD Management task.
 - With DASD management not being shipped as originally announced, these fields (referred to as SMA attributes) will be removed from the storage group construct (IGDSGD).
 - They will be removed from ISMF panels, Navquest APIs and DCOLLECT records.

z/OSMF DASD Management Update

- **DFSMS**

- **Continue to support reserve storage pool**

- Reserved volumes introduced in z/OS V1R13
 - A reserve storage pool refers to a group of reserved volumes which are available for future use, whether they will eventually be used for SMS storage groups or for other reasons.
 - *A reserved volume is simply a volume initialized with the RESERVED parameter. A reserved volume cannot come online until it is re-initialized to be taken out of the reserved state. (Note: This is not related to a Hardware Reserve.)*
 - *A reserve storage pool consists reserved volumes which have also been initialized with a reserve pool name.*
 - The reserve storage pool resource is designed to replace the need for a storage administrator to manually maintain a list of defined but unused volumes.
 - Originally created to be used by the Add Storage wizard in the z/OSMF DASD Management task. However, it was not exclusive to this support.

z/OS DFSMS V1.13 Highlights

(September 2011)

- **DFSMSHsm**
 - DFSMSHsm CDS Backup Improvements
 - DFSMSHsm “On Demand” Migration
 - DFSMSHsm RAS and Usability Enhancements

Session 10950: What’s New in DFSMSHsm, Wednesday 8AM

Session 10915: A Look Inside The HSM Control Data Sets, Wednesday 3PM

Session 9351: Hints And Tips For Improving Your DFSMSHsm Environment., Thursday 8AM

Session 10952: DFSMSHsm Best Practices to Help You Get the Most from Your Investment, Thursday 3PM

DFSMSHsm R13

- **DFSMSHsm CDS Backup Improvements**

- During the backup of DFSMSHsm Control Data Sets (CDS), DFSMSHsm activity is quiesced to ensure integrity of the backup.
 - While Concurrent Copy can reduce the backup of each control data set to a few seconds, the backup of the journal can take many minutes.
 - This can impact production processing as jobs may be waiting for DFSMSHsm recalls, recoveries, or backups.
- **New enhancement:** CDS backup processing will begin the backup function immediately instead of waiting for DFSMSHsm requests to complete.
 - The backup of the Journal will begin before the CDSes are quiesced
 - *The journal is a sequentially written data set and as such, allowing DFSMSHsm activity to continue during the backup of the unchanged data would not impact the integrity of the backup.*
 - *DFSMSHsm activity will be quiesced only during the backup of the new records at the end of the journal.*

? Why it Matters: Improve system responsiveness with less-disruptive DFSMSHsm journal and control data set (CDS) backups.

DFSMSHsm R13

- **DFSMSHsm “On Demand” Migration**
 - Interval migration (IM) -- at the top of every hour, DFSMSHsm performs a space check on every volume that it manages.
 - Causes a spike in DFSMSHsm CPU usage and can consume a lot of wall clock time.
 - **New enhancement:** Specify that space management be done when any volume in a storage group for which auto-migration is enabled exceeds the utilization threshold, rather than waiting for Interval Migration processing – On Demand Migration (ODM)
 - The hourly check is replaced with an exit that will listen for an existing ENF 15 signal that indicates that an SMS configuration change has occurred.
 - Installations can select which type of space management processing they would like DFSMSHsm to perform – IM or ODM
- **? Why it Matters:** Make DFSMSHsm space management more responsive when On Demand Migration replaces Interval Migration processing.

DFSMSHsm R13

- **DFSMSHsm RAS and Usability Enhancements**

- **RELEASE RECALL (DASD)**

- After a HOLD RECALL command is issued, there is no command to release the tasks recalling from DASD volumes without also releasing the hold on recalls from tape volumes.
 - *If an operator experiences a major problem with a tape subsystem, there is no way to release DASD recalls without issuing a general RELEASE RECALL.*
 - **New enhancement:** A new subparameter for the RELEASE RECALL command you can use to specify that DFSMSHsm avoid recalling data sets from missing or faulty tapes while releasing the hold on recalls from DASD.
 - **Share Requirement MET:** SSMVSS09005
 - *Once a HOLD RECALL command has been issued, there is no way to release DASD recalls without also releasing tape recalls.*
 - **? Why it Matters:** If a tape subsystem will be down for an extended period of time, work can continue for those datasets only migrated to DASD.

DFSMSHsm R13

- **DFSMSHsm RAS and Usability Enhancements**

- **QUERY CRQ(RECALL)**

- Common Recall Queue (CRQ) is a single RECALL queue shared by multiple DFSMSHsm hosts. It enables the Recall workload to be distributed across all DFSMSHsm hosts in the sysplex.
 - *A recall request in the CRQ can only be canceled from the originating host. There is no DFSMSHsm command available to help determine which host the recall request initiated from.*
- **New enhancement:** Modified QUERY CRQ command output to include the host id that originated the Recall.
- **? Why it Matters:** User can easily determine the 'originating host ID' should it be necessary to cancel a RECALL request.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **DFSMSrmm**
 - DFSMSrmm Simplified Monitoring & Management
 - DFSMSrmm RAS Enhancements

**10551 What's New With
DFSMSrmm V1R13 Big
Changes, Tuesday 4:30PM**

**Session 10553 Best
Practices for Maximizing
Your DFSMSrmm
Investment, Friday 8AM**

DFSMSrmm R13

- **DFSMSrmm Simplified Monitoring & Management**
 - **Retention date in the volume and data set search results**
 - Search results list for volumes or data sets might show retained resources with an expiration date already passed, if the resource is retained by VRS.
 - **New enhancement:** Display the retention date instead of the expiration date in the search results list, when the volume / data set is VRS retained.
 - **? Why it Matters:** Storage administrators can more easily determine from the search results list why a volume is retained, without viewing the volume and data set details.
 - **SEARCHDATASET extensions**
 - The SEARCHDATASET subcommand has limited ability to search through the attributes of data sets.
 - **New enhancement:** Additional operands are added enabling more extensive searches including many on specific date ranges.
 - **? Why it Matters:** Search more efficiently in a large number of data sets.

DFSMSrmm R13

- **DFSMSrmm Simplified Monitoring & Management**
 - **TVEXTPURGE parmlib option with extra days**
 - If DFSMSHsm tapes are expired by the EDGTVEXT HSM exit, extra days for retention can only be defined with an EXTRADAYS VRS.
 - **New enhancement:** With the parmlib option TVEXTPURGE(EXPIRE(days)) a number of extra days can be defined with no additional consideration.
 - *On systems with mixed releases please be aware the TVEXTPURGE(EXPIRE(days)) will only be processed on V1R13, but not on lower releases!*
 - **? Why it Matters:** Avoid having to define and apply a VRS.
- **Expiry Date Set By information**
 - By looking at the expiration date of the volume or data set it is hard to guess who set it – did it come from OCE or from VOLCAT, during conversion or export, ... or did RMM set/changed it according the parmlib OPTIONS.
 - **New enhancement:** DFSMSrmm now also records details of what event caused the EXPDT to be set or changed.
 - **? Why it Matters:** It is now easy to determine the event that caused the expiration date to be set or changed.

DFSMSrmm R13

- **DFSMSrmm Simplified Monitoring & Management**
 - **VRS Management Updates**
 - All data in the RMM inventory is managed by dynamic VRS policies. With every housekeeping run the retention for a volume or a data set can change.
 - **New enhancement:** Exclude single data sets from VRSEL.
 - *VRSEL processing is reduced by eliminating certain types of data from VRSEL processing*
 - **? Why it Matters:** Help simplify retention policies, avoid batch VRS policy management, and enable you to determine how long a tape data set will be retained.
 - **New enhancement:** Optionally assign a retention method at the time a tape data set is created enabling a choice of whether data is managed by expiration date or by VRS policies.
 - *Retention information for expiration date retained data can be known when a tape data set is created.*
 - **? Why it Matters:** Enables use of simpler retention policies and helps to avoid batch VRS policy management.

DFSMSrmm R13

- **DFSMSrmm RAS Enhancements**

- **CANCEL Cleanup**

- When DFRMM is cancelled during ESTAE processing, the cleanup of running and queued requests may not be completed successfully. This potentially leaves users of DFSMSrmm services waiting forever.
 - **New enhancement:** DFSMSrmm subsystem interface processing now correctly detects that DFRMM is or has been stopped and fails incomplete requests as EDG2002I 'Cancelled by Operator'.
 - *Requests which abnormally end are failed with EDG2003E 'ABEND During Subsystem Processing'.*
 - **? Why it Matters:** DFSMSrmm TSO commands, housekeeping and tools now provide better user feedback in case a subsystem request fails due to RMM being cancelled or the subsystem task has been abended.

- **Selective Volume Movement**

- Automated movement avoids moving logical volumes when stacked volume support is enabled. However, many of our customers have non-IBM virtual tape solutions and need another way to prevent volume movement driven by VRSeS.
 - **New enhancement:** If a library/appliance is not able to support movement of volumes it can be specified in parmlib LOCDEF command.
 - **? Why it Matters:** Improved control over automatic inventory management driven movement.

DFSMSrmm R13

- **DFSMSrmm RAS Enhancements**

- **Last Change Details**

- Customer requirement to provide an easy way to audit changed media, where ever possible without running EDGAUD audit reports.
 - **New enhancement:** Last change information is added to all list command outputs and to the dialog for all resources stored in the RMM CDS.

- ? Why it Matters:** Reduced need to run EDGAUD audit reports.

- **VRS Last Reference Date**

- After some time the number of Vital Record Specifications in a customer installation may grown to a number that is hard to manage.
 - *No longer used VRSeS are especially hard to identify.*
 - **New enhancement:** Display the VRS last reference date in the dialog and provide sorting of search results by it.

- ? Why it Matters:** The user can now quickly and easily cleanup unused VRSeS.

DFSMSrmm R13

- **DFSMSrmm RAS Enhancements**
 - **Display Navigation Enhancements**
 - No fast path command exists to display multi-volume and multi-file lists. Only very few Point-and-Shoot fields exist in the RMM dialog.
 - **New enhancement:** Specific to multi-volume and multi-file lists, 16 Point-and-Shoot fields on Volume display, and 5 Point-and-Shoot fields on Data set display are implemented.
 - **? Why it Matters:** Quicker and easier navigation in the RMM dialog.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **SDM**
 - SDM RAS Enhancements

**Session 10953 What's New in
DFSMSdss and System Data Mover,
Tuesday 1:30PM**

**Session 10954 Making the Most of
DFSMSdss and SMS: Hints, Tips, and
Best Practices in your z/OS
Environment, Wednesday 1:30PM**

SDM R13

- **SDM RAS Enhancements**

- **XQUERY FILTER**

- The STA() parameter on the XQUERY command filters the query output so that only volumes in the specified status are included in the report.
 - *STA(BLK) includes volumes which are in a “blocked” state, which includes device blocking and long busy. The purpose of filtering on blocked devices is to identify sources of application impact, since blocking works by slowing down application writes on a volume.*
 - *The existing filter is insufficient to meet customer needs because not all volumes which are contributing to high residual counts and application impact are identified.*
 - **New enhancement:** Provide filtering for high-activity volumes that are not being blocked or paced.
 - *Invoked with the STA(BK2) parameter.*
 - *Used by the XRC Performance Monitor (XPM). XPM changes are in APAR OA35078. After applying the XPM APAR, APAR OA33140 allows XPM to work on pre-R13 systems.*

? Why it Matters: New parameter can be used to balance volumes across controllers.

- **EAV 1TB Volume Bitmaps**

- Bitmaps for 1TB volumes take up 31,457,280 bytes.
 - **New enhancement:** Place bitmap above the 2GB bar.
 - **? Why it Matters:** Cut down on space used in an XRC primary address space and provide XRC exploitation of EAV volumes.

SDM R13

- **SDM RAS Enhancements**

- **XRC Timestamp Suppression**

- Continuation of APAR OA24780
 - *Timestamping of writes is an essential mechanism that XRC uses to maintain sequence consistency of writes to the secondary volumes.*
 - *When the XRC System Data Mover is run on a remote Recovery system that does not share a common time reference with the Application systems, it's important to configure the system in a way that avoids introduction of incorrect timestamps into the XRC storage control sessions.*
 - Today, users must zap or patch a bit in a SYS1.NUCLEUS module which is problematic due to system change control standards in use at many installations
 - **New enhancement:** New ANTXIN00 PARMLIB parameter, SuppressTimestamp(NO|YES) checked at ANTAS000 startup only

SDM R13

- **SDM RAS Enhancements**

- **Concurrent Copy PARMLIB**

- Customer requirement to simplify tuning changes for Concurrent Copy.
 - *Concurrent Copy jobs have utilized hardcoded tuning parameters since initial shipment.*
 - *Often times these values have required modification for a particular system. This could be done using AMASZAP, SDM PATCH command but are not easy.*
 - **New enhancement:** Provide SYS1.PARMLIB(ANTMIN00) keywords and Operator Modify Command keywords to adjust tuning values for CC.
 - **CC Attention Throttling**
 - *During times of high update activity, multiple CC SRBs could be scheduled for each control unit. This could result in contention for both Main Storage and Auxillary Storage, results in slowing the cache offload process.*
 - *SDM can limit parallel attention processing to the number of parallel processes allowed at the controller level.*
 - **CC Read Ahead**
 - *Sets the number of Read Track Image CCWs SDM will build over the actual count of CCWs needed to drain the controller cache sidefile.*
 - *This value allows SDM to read additional data from the cache during peak update periods.*

? Why it Matters: Allow supported tuning value adjustments for individual system optimization

z/OS DFSMS V1.13 Highlights

(September 2011)



- **OAM**
 - OAM Filesystem Support
 - OAM Usability & Reliability Enhancements

**Refer to Anaheim
Conference proceedings:**

**Session 9009 What's New
With OAM Object Support**

**Session 9008 DFSMS
Object Support: Data
Archiving with OAM**

OAM R13

- **OAM Filesystem Support**

- OAM's storage hierarchy supports disk, tape, and optical storage levels.
- **New enhancement:** OAM adds support for file systems to the disk level for zSeries File System (zFS) and Network File System (NFS) file systems, in addition to the existing support for DB2-backed object storage.
 - Support of file systems for primary OAM object storage allows z/OS UNIX file systems to store, retrieve, and delete objects, and to move objects between file systems and other locations in the OAM hierarchy.


? Why it Matters: Provides new, more flexible ways to configure OAM storage hierarchy.

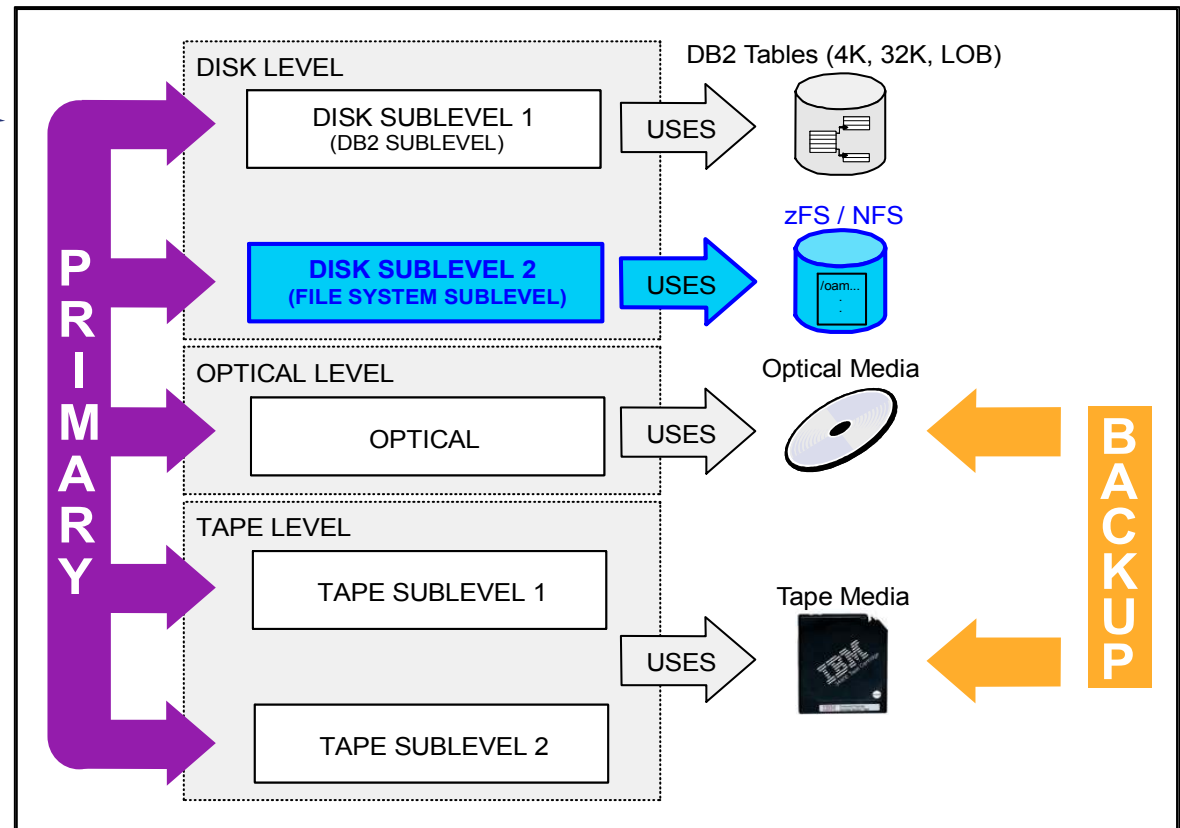
OAM R13



New OAM hierarchy file system sublevel to the Disk Level for primary objects

• OAM Filesystem Support

- Disk Level
 - DB2/DASD sublevel
 - **File System sublevel** 
- Optical Level
- Tape Level
 - Tape sublevel 1
 - Tape sublevel 2
- Each object stored as a file in z/OS UNIX storage hierarchy
- Supported File System Types
 - zFS (on native attached DASD)
 - NFS (using wide variety of storage technologies on NFS server)



OAM R13

- **OAM Usability and Reliability Enhancements**

- **Wildcard in F OAM,S,STORGRP Command**

- Operators had to enter command for each object and/or object backup storage group he wanted OAM to process.
 - **New enhancement:** The MODIFY OAM,S,STORGRP,groupname command has been enhanced to support a single asterisk wildcard in the groupname.

- **? Why it Matters:** OAM command simplification.

- **Extend Object Expiration Beyond 27 Years**

- Prior to this support, the maximum expiration criteria specified via SMS management class definition (other than NOLIMIT) is 9999 days (roughly 27 years).
 - **New enhancement:** Objects can still be retained FOREVER (or NOLIMIT) however the 9999 day maximum associated with management class Retention Limit, Expire after Date/Days, and Expire after Days Non-usage has been expanded to 93000 days.
 - *The maximum number of days specified via the RETPD and EVENTEXP keywords on the OSREQ API has also been expanded to 93000.*

- **? Why it Matters:** Extended expiration support which may help assist with compliance regulations.

OAM R13

- **OAM Usability and Reliability Enhancements**
 - **Dynamic Update of SETOAM Keywords**
 - In order to change the distribution of tape drives allocated for OAM object and object backup storage groups, installations had to modify values in the CBROAMxx Parmlib member and restart OAM.
 - **New enhancement:** Values specified for the SETOAM keywords are dynamically changeable via the F OAM,UPDATE,SETOAM operator command. No restart of the OAM address space is required.
 - *SGMAXTAPESTORETASKS and SGMAXTAPERETRIEVETASKS (storage group level)*
 - **? Why it Matters:** Distribution of tape resource can be biased towards object or object backup storage groups as required.

OAM R13

- **OAM Usability and Reliability Enhancements**

- **Improved Media Migration**

- When processing volumes with a large number of collections, a significant amount of time could elapse between the time the MOVEVOL command is issued and the time of the first write to a new volume.
 - *Running MOVEVOL on one member of an OAMplex resulted in measurable CPU usage on 'idle' members in the OAMplex in reaction to XCF messages broadcast by the 'active' member.*
 - **New enhancement:** OAM's media migration utility, MOVEVOL, is changed to no longer process objects on a collection boundary.
 - *With this support, the frequency of the broadcast messages relating to all tape reads and writes (not just MOVEVOL) from the 'active' member will be significantly reduced potentially resulting in much lower CPU usage on the 'idle' systems.*
 - **? Why it Matters:** This new algorithm should result in a better performance when moving objects from a source volume that contains a large number of OAM collections.

OAM R13

- **OAM Usability and Reliability Enhancements**

- **SMF Counter Scalability**

- Some 4 byte counter fields in SMF Type 85, subtypes 32-35 and 87 containing kilobyte values potentially could overflow as workloads and tape capacity increase.
 - **New enhancement:** New 8 byte counter fields have been added to SMF Type 85, subtypes 32-35 and 87 to protect against potential overflow.
 - *The new 8 byte counters contain values in bytes and provide more granularity.*
 - **? Why it Matters:** Avoids inaccuracies due to counter overflow (the 4 byte counters will contain X'FFFFFFFF' if overflow condition is detected).

- **RECYCLE Candidates Display**

- When an F OAM,START,RECYCLE command is issued, the Recycle Candidates display message, CBR9875I, followed by a list of up to 40 volumes that have met the criteria specified by the RECYCLE command is generated and sent to hard copy SYSLOG.
 - *The total number of volumes that meet the criteria for the RECYCLE command is **not** displayed.*
 - **New enhancement:** The message line that is displayed at the end of the Recycle Candidates display is updated to show a count of the total number of volumes that met the criteria specified in the RECYCLE command.
 - **? Why it Matters:** Improved OAM monitoring and reporting.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **NFS**
 - NFS Windows 7 Support

NFS R13

- **NFS Windows 7 Support**

- ***New enhancement:*** NFS supports 32- and 64-bit versions of Microsoft Windows 7 Professional Edition with Open Text NFS Client or Open Text NFS Server installed.

? Why it Matters: Continued currency support.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **DFSMSdfp**

- OCE Descriptive Text for Errors
- OCE Support for XTIOU and Uncaptured UCBs
- OCE Tape Error Recovery for missing and out of sequence volumes
- OCE FREEVOL=EOV Support
- OCE RAS
- EAV Enhancements

OCE R13

- **OCE Descriptive Text for Errors**

- OCE and the OPEN or CLOSE access method executors detect hundreds of error conditions that result an abend message containing a numeric abend code and return code value but with no explanatory text.
- **New enhancement:** An installation option, **originally set** via DEVSUPxx, to additionally include the descriptive text appended to the associated abend message.
 - New DEVSUPxx parameter to activate: OCE_ABEND_DESCRIP = YES | NO
- **NEW UPDATES:** Problem identified by ESP customers: no way to restrict descriptive text only to JOBLOG
 - MPFLSTxx allows users to specify whether system components that support verbose messages (multi-line message that contains additional lines of explanation) should produce the messages or not.
 - If requested, they will be included in their entirety in the JOBLOG but the extra lines of explanation will not be included in the SYSLOG or OPERLOG and will not be queued to any consoles.
 - *MPFLSTxx recognizes one statement type .MSGOPTION VERBOSE[(Y)] [(N)]*
 - *If the VERBOSE setting is Y, then the system writes all of the lines to the job's log. If the VERBOSE setting is N (the default), the system discards the optional lines.*
 - With the application of APAR OA37505 / OA37957, the OCE_ABEND_DESCRIP keyword has no effect.
 - *If you code any value for this keyword, the system issues message "IEA253I OCE_ABEND_DESCRIP NO LONGER HAS AFFECT. USE MPFLSTxx MEMBER".*

? Why it Matters: Improved RAS and first time data capture. Eliminates the need to reference the message manuals to interpret the abend and return codes.

OCE R13

- **OCE Support for XTIOt and Uncaptured UCBs**

- OCE XTIOt support for BAM DCBs was added in z/OS V1R12 but did not include subsystem DCBs and ACBs.
- **New enhancement:** XTIOt support for subsystem ACBs and DCBs
 - OPEN will accept subsystem DCBs with associated XTIOts if the subsystem supports it.
 - As with XTIOt support for DASD and tape, the system programmer must set NON_VSAM_XTIOt=YES in the DEVSUPxx member of PARMLIB and the user's DCBE macro must have LOC=ANY.

? Why it Matters: Help provide virtual storage constraint relief for address spaces that allocate a large number of data sets.

- **OCE Tape Error Recovery for missing and out of sequence volumes**

- For multi-volume data sets error conditions can be detected during OCE input processing, there are ignore (default) or abend options available for these anomalies, but NO recovery option.
- **New enhancement:** OCE detects the anomaly and passes control to the LABAN exit. RMM exercises the recovery option and will attempt to return the corrected list. OCE processes the RMM volume list and returns a new message:
 - IEC716I ddnamexx: TAPE MULTIVOLUME LIST CORRECTED
 - Note: Not available when you specify OPTCD=B, which bypasses label anomaly processing.

? Why it Matters: *Automatic* recovery for missing or out-of-sequence tape volumes.

OCE R13

- **OCE FREEVOL=EOV Support**

- Long running programs that read or write multivolume tape data sets prevent other jobs from accessing any of the volumes until the job unallocates all of the volumes.
- **New enhancement:** Allow different systems in the sysplex to concurrently read multivolume tape files in a way similar to the Deq at Demount Facility.
 - A new JCL keyword (FREEVOL=EOV) will allow a tape for part of a multivolume data set to be available at end of volume rather than end of step.
 - Limitations:
 - *Does not require APF authorization, and since it is implemented in the JCL, no changes to the application are required.*
 - *Honored only for input processing.*
 - *EOV and CLOSE volume disposition processing will unload the volume when the disposition would otherwise be REWIND.*

? Why it Matters: Allow other jobs to use the tape immediately and overlap processing of multivolume tape data sets.

OCE R13

- OCE RAS Enhancements

- RACF Return and Reason Codes

- **New enhancement:** On return from a call made to RACF from OCE, when the return or reason code is nonzero, save the information and make it available in a dump associated with the RACF failure during OCE processing.

- **? Why it Matters:** Improved first time data capture.

OCE R13

- **OCE RAS Enhancements**

- **Allow DCBE to be either in key8 or key9**

- Today, key 8 callers of OPEN are allowed to provide DCBs located in key-9 storage; however, OPEN does not allow DCBEs also to be in key-9 storage.

- **New enhancement:** Allow both DCB and DCBE to be in only key 9 storage.

- **? Why it Matters:** No longer need to copy Key 9 DCBEs to Key 8 storage before OPEN.

- **MULTSDN**

- QSAM uses the MULTSDN value to calculate a better BUFNO value for tape and specific types of DASD data sets. The BUFNO is calculated based on the first data set in the concatenation.

- *When going to the next data set in the concatenation an out of storage condition can occur when EOVS getmains a large amount of storage based on the BUFNO and BLOCKSIZE when the blocksize of the next data set is much larger than the current data set.*

- **New enhancement:** Dynamically recalculate the BUFNO value when switching to the next concatenated data set when QSAM with MULTSDN is specified.

- **? Why it Matters:** Avoid potential out-of-space conditions due to incorrect BUFNO values for concatenated data sets.

What is an EAV?

- **What is an Extended Address Volume (EAV)?**

- A volume with more than 65,520 cylinders
- Size limited to 223 GB (262,668 Max cylinders)
- Supported in z/OS V1R10 and higher

- **What is EAS Eligible?**

- A data set on an EAV that is eligible to have extents in the extended addressing space and described by extended attribute DSCBs (format 8/9)
 - Can reside in track or cylinder-managed space
 - SMS-managed or non-SMS managed
 - Any data set type can reside in track-managed space



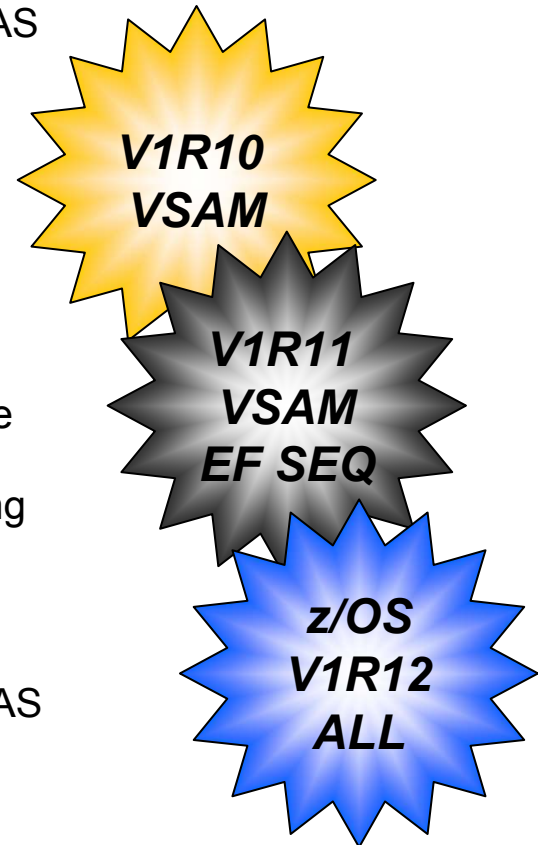
Breaking the 65,520 cylinder limit



EAV R13

- **z/OS R13 Exploitation**

- Communications Server FTP support for more data set types in the EAS of EAVs, enabling FTP to access this additional DASD capacity when allocating, storing, and retrieving data sets that are eligible to reside there.
 - SMS-managed and non-SMS-managed physical sequential
 - Basic and large format data sets
 - PDS and PDSE data sets
 - GDG data sets
- ISPF provides support for Displaying job and step names stored by the system for data sets that are eligible to reside in the EAS of an EAV in the Data Set List utility (option 3.4), and retrieving this information using the DSLIST and LMDLIST services.
 - Intended to allow users to find the creating job and step names easily.
- SDSF is designed to support extended format sequential (DSNTYPE=LARGE) print files, and print files that are placed in the EAS of an EAV.



? Why it Matters: Scalability for customers constrained by 4 character UCB's

EAV R13

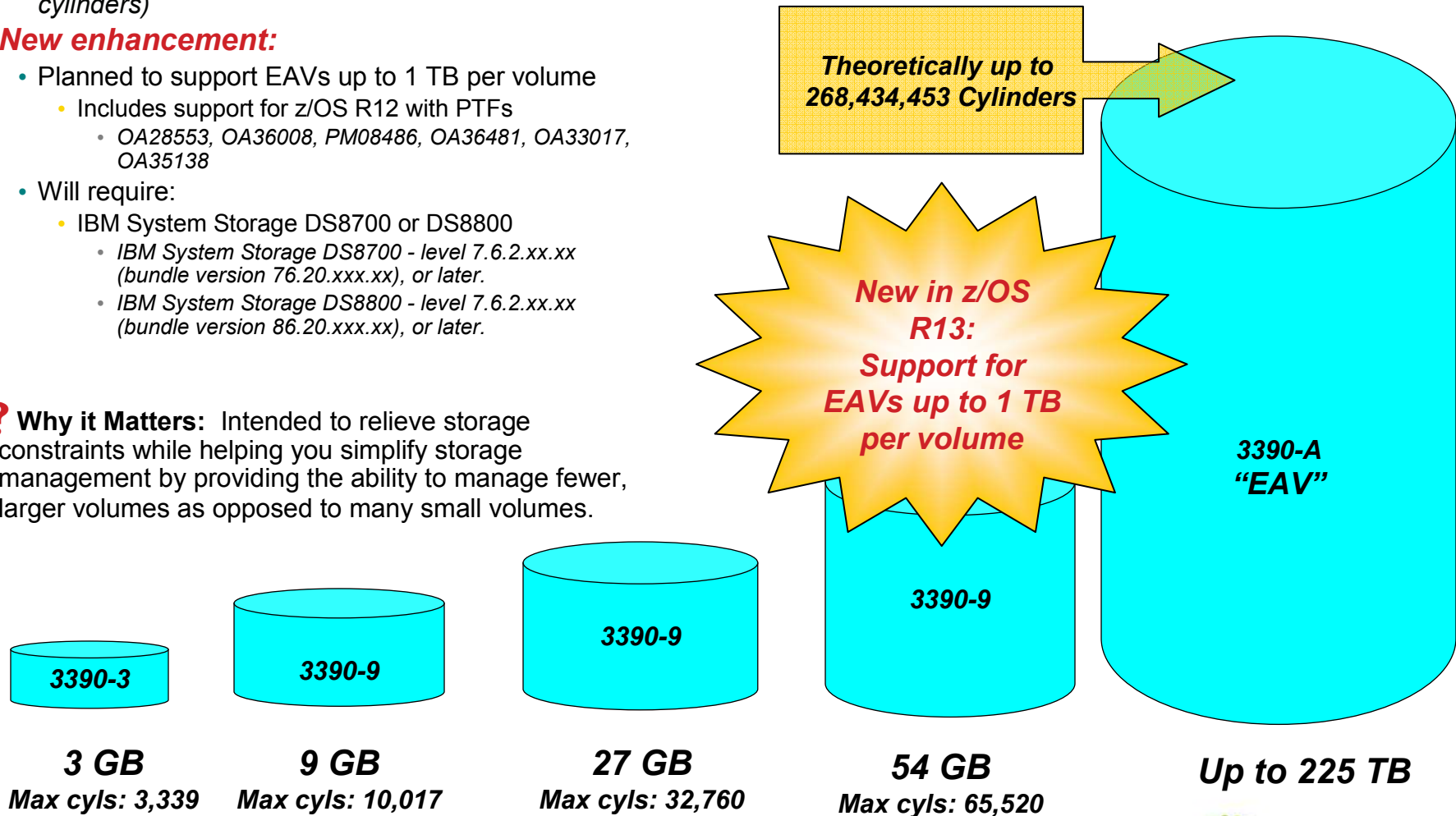
• Maximum cylinders

- Today, size limited to 223 GB (262,668 Max cylinders)

• **New enhancement:**

- Planned to support EAVs up to 1 TB per volume
 - Includes support for z/OS R12 with PTFs
 - OA28553, OA36008, PM08486, OA36481, OA33017, OA35138
- Will require:
 - IBM System Storage DS8700 or DS8800
 - IBM System Storage DS8700 - level 7.6.2.xx.xx (bundle version 76.20.xxx.xx), or later.
 - IBM System Storage DS8800 - level 7.6.2.xx.xx (bundle version 86.20.xxx.xx), or later.

? Why it Matters: Intended to relieve storage constraints while helping you simplify storage management by providing the ability to manage fewer, larger volumes as opposed to many small volumes.



z/OS DFSMS V1.13 Highlights

(September 2011)

- **Access Methods**
 - VSAM RLS Buffer Enhancements
 - BAM RAS Enhancements
 - BAM Support for zHPF
 - Media Manager Support for DB2 List Prefetch

Session 10967: How To Leverage VSAM Record Level Sharing (RLS) Best Practices And Performance In Your Environment, Thursday 9:30AM

Session 10968: DFSMS Basics: Transactional VSAM (TVS) Implementation, Friday 8AM

VSAM RLS R13

- **VSAM RLS Buffer Enhancements**

- RLS spheres remain connected for a short period of time after the data set is last closed in the system.
- **New enhancement:** New Storage Class attribute allows the buffers and its resources for a data set be released sooner when the data set is last closed in the system.
 - Disconnect Sphere at CLOSE N (Y or N)
 - Beneficial to environment with applications that do not quickly re-open the same data sets and environment that is often short of buffer pool space.
 - *Not intended for data sets that are being re-open quickly as BMF will have to re-prime all the buffers it needs when reopening the same data sets. In this case, turning on this feature might even degrade the performance*
 - IDCAMS DCOLLECT will be designed to include information about this new attribute in storage class (type SC) records.
- **New enhancement:** Provide enhancements to VSAM RLS buffer management algorithms to improve processing of "aged" buffers.
 - Expected to help improve performance when processing large RLS data sets with large buffer pools.
- **? Why it Matters:** Help improve performance when processing large VSAM RLS data sets.

BAM R13

- **BAM RAS Enhancements**

- **Improved tracing**

- Today, for some extended format SAM errors, the user has to recreate the problem in order to gather diagnostic information.
 - **New enhancement:** Diagnostic enhancements designed to reduce problem recreates and problem determination efforts.
 - *Provide a SAM internal trace facility designed to trace at the DCB level without GTF. Trace table entries created until the DCB is closed. Will help to determine the code path leading to the failure rather than working on complex and case specific slips.*
 - *Enabled via DCB=DIAG=TRACE.*
 - *Trace table records are found in the formatted area of the storage dump.*
 - *Also DESERV enhanced to use existing interface to the SSF CTRACE component to create trace records which can be formatted by IPCS.*
 - *Enabled via TRACE CT,2M,COMP=SYSSMS, OPTIONS=(ENTRY,EXIT,EXITA,COMP=(AMA)),END*
 - *SSF Ctrace added to key DESERV module entry and exit points.*
 - *Ctrace records automatically saved in Ctrace buffers and are formatted with IPCS*

? Why it Matters: Improved diagnostics and first time data capture.

BAM R13

- **High-Performance FICON (zHPF) improvements**
- **New enhancement:** zHPF to support certain I/O transfers for QSAM, BPAM, and BSAM
 - Significant I/O performance improvements are expected without the need for application changes.
 - Extends current zHPF support for VSAM, Extended Format sequential, zFS, and PDSE data sets to support:
 - Basic nonextended format Physical Sequential data sets
 - Basic and large format sequential data sets
 - Enable via:
 - IECIOSxx member of PARMLIB: SETIOS ZHPF=YES
 - *Also use SETIOS ZHPF=YES command*
 - IGDSMSxx member of PARMLIB: SAM_USE_HPF(YES|NO)
 - *Default NO on z/OS R11-R12, YES on z/OS R13*
 - *Also use SETSMS SAM_USE_HPF=YES command*

BAM R13

- **High-Performance FICON (zHPF) improvements**
 - Requires the following:
 - z/OS V1.13, z/OS V1.12 or z/OS V1.11 with PTFs
 - OA34662 (*Device Support*)
 - OA34663 (*AOM*)
 - OA34661 (*Media Manager*)
 - OA34671 (*SMS*)
 - OA34672 (*BSAM*)
 - OA34673 (*O/C/EOV*)
 - OA34674 (*Checkpoint Restart*)
 - OA33089 (*IOS*)
 - zEnterprise System server with channels that support zHPF and a minimum Machine Change Level (MCL)
 - HMC V2.11.1
 - Support Element V2.11.1
 - IBM System Storage DS8700 or DS8800 series with new DS8000 licensed machine code
 - *IBM System Storage DS8700 - level 7.6.2.xx.xx (bundle version 76.20.xxx.xx), or later.*
 - *IBM System Storage DS8800 - level 7.6.2.xx.xx (bundle version 86.20.xxx.xx), or later.*

? Why it Matters: Better I/O performance expected with no application changes

BAM R13

- **High-Performance FICON (zHPF) improvements**
 - Recent APAR activity
 - A hardware problem in some storage control units has been identified when data lengths less than or equal to 128 bytes are used in HPF I/O.
 - *Users with DS8100/DS8300 with Release 4.3 code bundle levels 64.30.78.0 and higher*
 - *Apply HIPER APAR OA38777 ; IBM will provide an Release 4.3 engineering build for DS8100/DS8300 customers*
 - *Users with DS8700 with Release 5.0 code bundle level 75.0.x.y*
 - *Move to Release 5.1 or higher (release 6.2 bundle 76.20.82.0 is recommended)*

Media Manager R13

- **DB2 List Prefetch**

- **Media Manager Support**

- **New enhancement:** Provide improvements for DB2 list prefetch.
 - *Expected to provide significant performance improvements for certain DB2 queries and some DB2 utility operations.*
 - *Requires the following:*
 - *IBM System Storage DS8700 - level 7.6.2.xx.xx (bundle version 76.20.xxx.xx), or later.*
 - *IBM System Storage DS8800 - level 7.6.2.xx.xx (bundle version 86.20.xxx.xx), or later.*
 - *Also planned to be available on z/OS V1.11 and z/OS V1.12 with PTFs.*
 - *See previous list from zHPF*

? Why it Matters: Synergy and improved performance with a combination of z/OS, DB2, and System Storage.

z/OS DFSMS V1.13 Highlights

(September 2011)

- **Catalog**
 - Catalog PARMLIB Support
 - Catalog VVDS Expansion
 - Catalog Alias Constraint Relief
 - Catalog Search Interface Redrive
 - Replace Catalog Pseudo-Close with VSAM Close

Session 10976: ICF Catalog Management Overview, Wednesday 8AM

Session 10974: Increasing ICF Catalog Availability With Tivoli Advanced Catalog Management For z/OS, Wednesday 4:30PM

Catalog R13

- **Catalog PARMLIB Support**

- Users can customize the Catalog environment via SYS1.NUCLEUS (SYSCATxx) or SYS1.PARMLIB (LOADxx).
 - However, only one line (80 characters) is available for parameters and that line has long been filled preventing any new parameters from being added. Also, It prevents customers from changing these parameters once the system has been IPL'ed.
- **New enhancement:** A new parmlib member, IGGCATxx, allows users to specify a number of Catalog system parameters. Default is IGGCAT00
 - VVDS space defaults
 - Catalog utilization warning message threshold
 - Limit on CAS service tasks (overrides any specification in SYSCATxx)
 - Whether to enable extension records for user catalog aliases
 - A number of other things you also specify using MODIFY CATALOG
 - Some keywords inadvertently omitted from R13 Init & Tuning draft:
 - *EXTENDEDALIAS(YES/NO), DELFORCEWNG(YES/NO), DSNCHECK(YES/NO), SYMREC(YES/NO), UPDTFAIL(YES/NO), VVRCHECK(YES/NO), DELRECOVWNG(YES/NO)*

? Why it Matters: Customers can now create their own Catalog parmlib member(s) to customize their Catalog environment; the parameters can be changed by doing an IPL or a simple restart of the Catalog address space.

Catalog R13

- **Catalog VSAM Volume Data set (VVDS) Expansion**

- The max of x'FFFF' CI's in a VVDS is the limiting factor for the number of VSAM data sets or number of data sets on an SMS managed volume.
- **New enhancement:** Increase the max usable size of the VVDS
 - Maximum VVDS space increased from 5,460 tracks to 5,825 cylinders.
 - For most data set types, this is expected to be an increase from hundreds of thousands of data sets to millions of data sets per volume.

? Why it Matters: Allows the number of data sets per volume to scale with extended address volume (EAV) sizes.

- **Catalog Alias Constraint Relief**

- Approximately 3500 catalog aliases are allowed per user catalog.
 - In order to have more aliases, additional catalogs must be defined.
- **New enhancement:** Increase the number of aliases defined for a user catalog.
 - New limit expected to be over 500,000 (depending on alias lengths). Creates a new catalog connector extension record (Type V).
 - Catalog parmlib member (IGGCATxx) keyword
 - EXTENDEDALIAS(YES|NO)
 - **Do not specify YES until all systems that will process the catalog are at R13!**

? Why it Matters: Scalability; reduces the number of user catalogs to be defined and managed.

Catalog R13

- **Catalog Search Interface Redrive**

- Due to the increased usage of Generic Filter Locate (GFL) via the Catalog Search Interface (CSI), more and more requests are not redriven successfully making a CAS restart less viable.

- When a restart problem is in evidence, a return code of 246, reason code 0 is returned to the caller.

- **New enhancement:** Redrive the CSI request in the event of a return code 246 reason code.

? Why it Matters: More requests complete normally (ie redrives are successful).

Catalog R13

- **Replace Catalog Pseudo-Close with VSAM Close**
 - Today, Catalog Management invokes VSAM Open, which writes out SMF62 records. Catalog Management did a pseudo-close which does not issue a real VSAM Close, and no SMF64 records are written out
 - **New enhancement:** Replace Catalog pseudo-close with VSAM Close.
 - 2 SMF64 records written out: one for DATA and one for INDEX.
- **? Why it Matters:** Improved problem diagnostics in case of error and improved reporting.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **IDCAMS**
 - IDCAMS LISTCAT LEVEL
 - IDCAMS DELETE UCAT Message

**Refer to Anaheim
Conference proceedings:**

**Session 8977 What's New
with DFSMS ICF Catalog
and IDCAMS**

AMS R13

- **IDCAMS LISTCAT LEVEL**

- Ordinary LISTCAT with LVL sometimes does not list all dependent objects for a CLUSTER or an AIX. This is because the LVL pattern for the DATA and the INDEX objects does not match the generic pattern expressed.
- **New enhancement:** With a CDILVL option to a LISTCAT LVL, you are able to see the other dependent objects, so long as the pattern matches the main CLUSTER or AIX object.
 - Specify whether related component names be listed when a data set entry is listed based on the pattern specified by LEVEL.
 - *Default is NOCDILVL, so you must specify CDILVL to get the extra set of dependent objects.*
 - CDILVL specification is only for LVL and is used with GFL listings only. Any use of LVL without GFL will be valid, but the parameter will be ignored.
- **? Why it Matters:** See more in a LISTCAT LVL listing than merely what matches the LVL pattern, necessarily.

- **IDCAMS DELETE UCAT**

- When DELETE User-catalog with FORCE option is issued, IDCAMS issues a WTOR warning message to confirm the deletion.
- **New enhancement:** Issue an operator message that requires a response before allowing a user catalog to be deleted when RECOVERY is specified.
 - Enabled using new operands of the MODIFY CATALOG command
- **? Why it Matters:** Help prevent inadvertent deletion of user catalogs in batch jobs using IDCAMS.

z/OS DFSMS V1.13 Highlights

(September 2011)

- **SMS / ISMF**

- ISMF Sort Capability & Space in GB
- SMS Best Practices Enhancements
- SMS Support for Increased Retention Period
- SMS RAS Enhancements

**Session 10936: DFSMS Basics:
How To Create/Modify An SMS
Configuration And Write ACS
Routines, Wednesday 11AM**

**Session 10937: ACS Routines
LAB , Wednesday 12:15PM**

**Session 10954: Making The Most
Of DFSMSdss And SMS: Hints,
Tips, And Best Practices In Your
z/OS Environment, Wednesday
1:30PM**

**Session 10971: How Does DFSMS
Select Volumes?, Thursday
1:30PM**

ISMF R13

- **ISMF Sort Capability**

- Customer requirement to sort saved volume lists (using NaviQuest) by column.
- **New enhancement:** Added sort capability for volume list.
- **? Why it Matters: Makes ISMF easier to use.**

- **ISMF Space in GB**

- **New enhancement:** Add function to ISMF to display space information in GB units and support a new display for pool storage groups.
 - Added the Display function for POOL type SG.
 - User can request space information be displayed in GB.
- **? Why it Matters: Makes ISMF easier to use.**

SMS R13

- **SMS Best Practices**

- R12 added new SMS health checks for the communications and active configuration data sets (COMMDS and ACDS)
 - Best practice to specify the REUSE option to avoid running into space problems (SMS reason code 6068) as result of subsequent ACDS updates, or IMPORT/EXPORT functions.
 - *SMS will run into space problems when a lot of updates happen on the CDS without REUSE option specified.*
 - SMS Health Check only acts as a detective without enforcing the requirement of the REUSE option.
- **New enhancement:** SMS determines whether the configuration data set (CDS) has the REUSE attribute, and if not changes it to REUSE automatically during activation.

? Why it Matters: Avoid out of space conditions for SMS CDS.

SMS R13

- **SMS Support for Increased Retention Period**

- Currently the maximum data set retention period is limited to 9999 days after creation, which is about 27 years.
 - In many instances, this is insufficient due to various reasons such as legal requirements that require documents be kept for longer than 27 years.
- **New enhancement:** New design limit is 93,000 days (a bit over 254 years).
 - Specified via:
 - *JCL keyword – REPTD= nnnnn (0 – 93000)*
 - *IDCAMS DEFINE CLUSTER keyword – FOR(days) (0-93000)*
 - *Data class definition RETPD attribute - 0-93000*
 - Due to other system restrictions, the maximum date a data set can be retained is to the end of year 2155.
 - 99000 and 99366 remain as “never expire” dates no matter how derived.
 - The coexistence PTFs for lower level systems will continue to enforce the maximum retention period of 9999 days.

? Why it Matters: Legal requirements and compliance regarding document retention can be met more easily.

SMS R13

- **SMS RAS Enhancements**

- **CDS Linear Data Set Check**

- SMS requires the CDS to be a linear data set and will issue a dump with unclear message that prevents the user from diagnosing the problem.
 - **New enhancement:** SMS determines if the CDS is a VSAM linear data set and will issue a clear message to indicate the error.
 - *IGD090I if the CDS is not a VSAM linear data set*

? Why it Matters: Improved SMS diagnostics.

- **SMS PARMLIB parameter and Command**

- Typically, error messages generated during SMS processing are passed back to the caller who is responsible for externalizing these messages.
 - *For DELETE/RENAME processing, SMS will externalize its own error messages to the hardcopy log and the joblog.*
 - **New enhancement:** SMS provides the user with an option to control the issuance of these DELETE/RENAME messages via a new PARMLIB parameter and operator command.
 - *New parameter for member IGDSMSxx: SUPPRESS_DRMSGs (YES|NO)*
 - *New operator command: SETSMS SUPPRESS_DRMSGs (YES|NO)*

? Why it Matters: SMS users can specify whether or not to have messages displayed in the hardcopy log and joblog.

SMS R13

- **SMS RAS Enhancements**

- **Space Requests Greater than '7FFFFFFF'X kilobytes**

- Current space definitions in internal control blocks and internal logic in SMS limit the size of data sets that can be handled to '7FFFFFFF'X KiloBytes. This computes to roughly 39 million tracks or 2.5 million cylinders for a 3390 device.
 - *Other components have similar restrictions but in most cases their limits are higher, e.g. MVS Allocation has a limit in the neighborhood of 16 million cylinders.*
 - **New enhancement:** SMS will support a much higher data set size. The new limit will be '7FFFFFFF'X Megabytes or higher (greater than 2500 million cylinders).

? Why it Matters: Improved scalability for SMS.

- **Include CDS level in the output of D SMS command**

- Currently, the D SMS command generates the IGD002I message. This message will list information that is extracted from the IGDSMSxx member and stored in the IGDSSIIVT.
 - *One piece of information that is not displayed is the level of the currently active configuration. .*
 - **New enhancement:** SMS enhances the D SMS command to put out the level of the configuration in addition to all currently displayed fields.
 - *The level represents the level of DFSMS at which the configuration was created.*
 - *ACDS LEVEL = z/OS Vn.nn|UNAVAIL*

? Why it Matters: Improved SMS reporting.

SMS R13

- **SMS RAS Enhancements**

- **Provide More Current Volume Space Statistics**

- The volume statistics in the SMS control data set (SCDS) are not updated until the specific volume status is changed, i.e. varied online or offline or being allocated to.
 - *There is increasing demand by applications needing to calculate the actual available space in the entire storage group.*
 - **New enhancement:** When SMS is requested to retrieve the volume list for a storage group, if any of the volume statistics in the list are not updated, then SMS will issue an LSPACE macro to obtain the latest statistics for that volume.
 - *For performance reasons, only a maximum of 500 volumes in the list will be updated each time.*
 - *If there are more than 500 volumes in the list, then the remaining will be updated when the same SG is requested again.*

? Why it Matters: The storage administrator will see more recent volume statistics.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **PDSE**
 - IEBPDSE Command
 - New PDSE Commands
 - PDSE Fairness/Sharing Policy
 - IEBCOPY Enhancements

**Refer to Orlando
Conference proceedings:**

**What We've Done for You
Lately With PDSE**

**IEBCOPY – Teaching an
Old Dog New Tricks**

PDSE R13

- **IEBPDSE Command**

- Over the years there have been a number of customer requirements requesting the ability to verify the structural integrity of a PDSE.
 - In some instances, customers back-up broken data sets as part of their routine operations, only to become aware of the problem months after the operation occurred, or multiple backups after the first one.
- **New enhancement:** A new utility, IEBPDSE, will verify the structure of a PDSE is valid.
 - The PDSE validation utility may be invoked using job control statements. Like most utilities, IEBPDSE can be invoked from TSO if SYSLIB is allocated to a PDSE.
 - *EXEC statement invokes the PDSE validation utility using PGM=IEBPDSE. The PARM keyword may be specified.*
 - *PARM=[DUMP|NODUMP] If the DUMP option is specified, the PDSE validation utility will issue an ABEND in the PDSE address space when an error has been found in the analysis of the PDSE.*
 - PDSE validation utility does not validate the data in the members.
 - IEBPDSE does not require APF authorization.

? Why it Matters: Help detect errors in PDSE structures that might otherwise go undetected.

PDSE R13

- **IEBPDSE Command**

- **Examples:**

- The following JCL can be used to invoke the PDSE validation utility:

```
//STEPCHK EXEC PGM=IEBPDSE
//SYSPRINT DD SYSOUT=A
//SYSLIB DD DSN=IBMUSER.SIMPLE.V2.PDSE,DISP=OLD
//STEPCHK2 EXEC PGM=IEBPDSE
//SYSLIB DD DSN=IBMUSER.SIMPLE.V2.PDSE,DISP=OLD
// DD DSN=IBMUSER.SIMPLE.V3.PDSE,DISP=OLD
// DD DSN=SYS1.TCPIP.SEZALOAD,DISP=SHR
//STEPLINK EXEC PGM=IEBPDSE,PARM='DUMP'
//SYSLIB DD DSN=SYS1.TCPIP.SEZALOAD,DISP=SHR
```


PDSE R13

- **IEBPDSE Command**

- **Example 1: will validate IBMUSER.SIMPLE.V2.PDSE and send the results to SYSPRINT.**

```
//STEPCHK EXEC PGM=IEBPDSE
```

```
//SYSPRINT DD SYSOUT=A
```

```
//SYSLIB DD DSN=IBMUSER.SIMPLE.V2.PDSE,DISP=OLD
```

- **Example 2: will validate IBMUSER.SIMPLE.V2.PDSE and IBMUSER.SIMPLE.V3.PDSE and send the results to the job log.**

```
//STEPCHK2 EXEC PGM=IEBPDSE
```

```
//SYSLIB DD DSN=IBMUSER.SIMPLE.V2.PDSE,DISP=OLD
```

```
// DD DSN=IBMUSER.SIMPLE.V3.PDSE,DISP=OLD
```

```
// DD DSN=SYS1.TCPIP.SEZALOAD,DISP=SHR
```

PDSE R13

- **Refresh PDSE**

- When a PDSE error has occurred, the installation needs to access what is affected by the error and may need to refresh the in-storage copy of the data set.
- **New enhancement:** PDSE support is enhanced with two new commands to simplify the identification of and recovery from some PDSE problems.
 - Display all users of a specified PDSE, and discard stale pages from PDSE directory cache.
 - The **CONNECTIONS command** is useful in determining which jobs are affected when an error occurs associated with a PDSE. The installation can then determine if a relPL or restart of the PDSE address space must be done immediately.
 - *D SMS,PDSE<1>,CONNECTIONS,DSN(pdsename)<,>VOL(volser)>*
 - The **REFRESH command** is useful in discarding what may be bad data for a PDSE after an error.
 - *V SMS,PDSE<1>,REFRESH,DSN(pdsename)<,>VOL(volser)>*

? Why it matters: Simplified error detection and recovery for PDSE.

PDSE R13

IEBCOPY Enhancements

- Today, IEBCOPY employs inefficient channel programming and 24-bit addressing, which inhibits use of virtual storage. In addition, IEBCOPY uses the EXCP access method and special I/O appendages which require it to be run from an authorized library.
 - **New enhancement:** Enhancements for the IEBCOPY utility to improve performance when copying a partitioned data set (PDS) to another PDS.
 - IEBCOPY will exploit 31-bit storage for track buffers
 - **New enhancement:** Removes the current requirement for APF authorization.
 - If your program calls IEBCOPY, you probably can remove APF authorization from your program, making it safer.
- ? Why it Matters:** Improved performance and usability for IEBCOPY.

z/OS DFSMS V1.13 Highlights

(September 2011)



- **DADSM / CVAF / Device Services**
 - DADSM / CVAF Availability Enhancements
 - Update Volume Information

DADSM / CVAF R13

- **DADSM Availability Enhancements**

- **Dynamic Exit**

- **New enhancement:** Provide Dynamic Exit support for both the preprocessing exit (IGGPREF00) and the postprocessing exit (IGGPOST0).
 - *Provides ability to change exits without interrupting the operation of the system AND to run multiple exit routines in the order specified without having to integrate exits from multiple sources and vendors.*
 - *All DADSM functions (create, extend, rename, partial release, and scratch) support dynamic exits.*

- **Concurrent Service**

- **New enhancement:** DADSM and CVAF components will support concurrent service.
 - *Allow users to dynamically update their programs without IPL.*

? Why it Matters: Help improve system and application availability.

DADSM / CVAF R13

- **DADSM Availability Enhancements**

- **Reuseable Address Space**

- **New enhancement:** DEVMAN address space is planned to be marked reusable
 - *Restarting it does not subtract from the system's maximum number of address spaces or from the system's reserve of non-restartable address spaces when REUSASID(YES) is specified in DIAGxx.*

? Why it Matters: Help improve system and application availability.

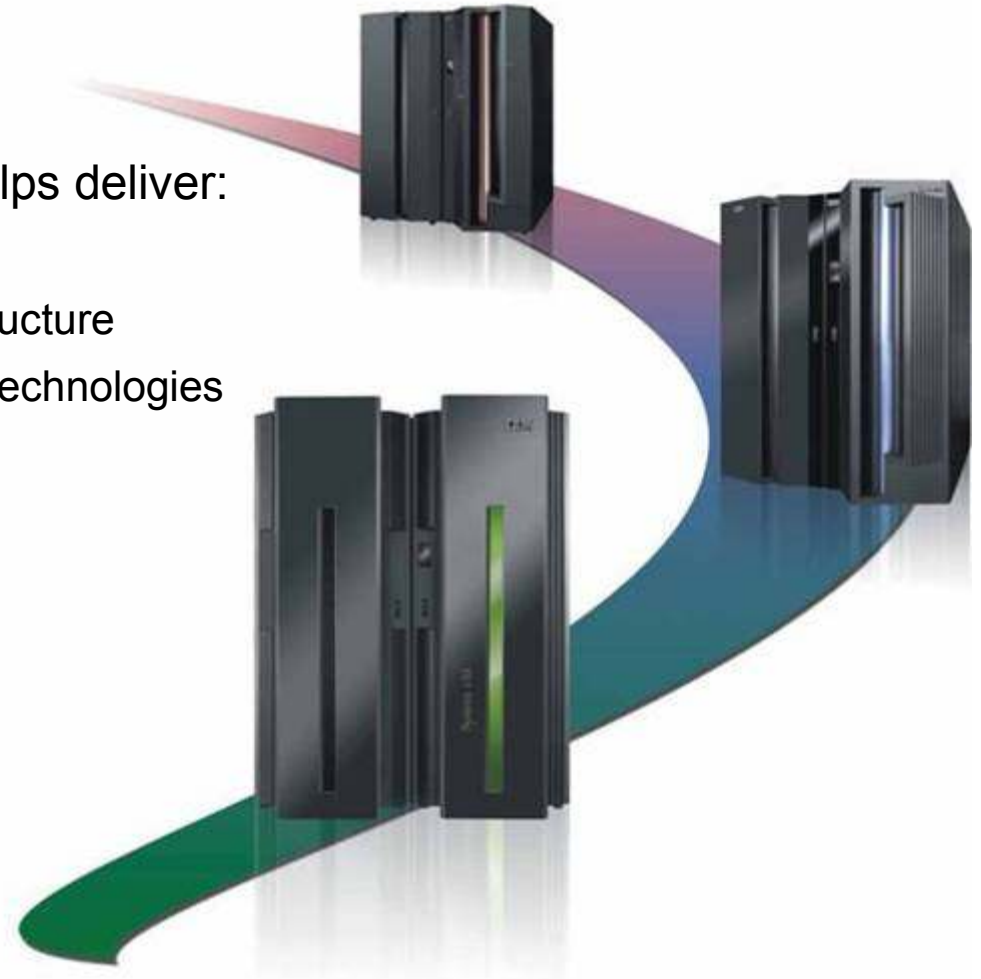
DADSM / CVAF / Device Services R13

- **Update Volume Information**
 - **New enhancement:** Update volume information across a Parallel Sysplex when DFSMSdss or DFSMSHsm Fast Replication Backup and Recovery processing complete successfully, and the volume serial or VTOC location, or both, have been changed.
 - Designed to issue VARY automatically on sharing systems when these operations change volume serial, VTOC pointer.
 - Controlled via a new REFUCB keyword is specified in a DEVSUPxx member of parmlib.
- **? Why it Matters:** Eliminate the requirement to issue VARY commands on sharing systems in the sysplex when volume information has been updated by these functions.

Thank you!



- IBM's commitment to the mainframe helps deliver:
 - Extreme scalability, and availability
 - Reduced costs and simplified IT infrastructure
 - High performance and energy efficient technologies
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DFSMShsm	HiperSockets	Parallel Sysplex*	VM/ESA*
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