IBM Responses to Requirements Submitted by the SHARE MVSS Project

Barbara McDonald, IBM DFSMS Product Management
bawhite@us.ibm.com

Monday, August 2, 2010
Session 8052

Disclaimer

The information on the new product is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information on the new product is for informational purposes only and may not be incorporated into any contract. The information on the new product is not a commitment, promise, or legal obligation to deliver any material, code or functionality. The development, release, and timing of any features or functionality described for our products remains at our sole discretion.

Agenda

- IBM Responses to SHARE Requirements
  - Existing requirements with updated responses
  - Existing requirements with unchanged response
  - New requirements

SHARE Requirements Summary

- Existing requirements with updated responses
  - **RJ-Rejected:** IBM does not intend to provide a solution to this request. This request has been declined.

Requirement #	Title	Status
SSMVSS08001	Provide a command to list the contents of DFSMSdss dumps	RJ – Rejected (Denver 2009) **RJ – Rejected (Boston 2010)**
SSMVSS08003	DFSMS – Display VVDS Catalog Cell	**RJ – Rejected (Boston 2010)**
SSMVSS08004	DFSMS – Alter VVDS Catalog Cell	**RJ – Rejected (Boston 2010)**

SHARE Requirements Summary

- Existing requirements with updated responses
  - **AV-Available**: IBM believes that the request described has been solved with a current product, service, or policy.

Requirement #	Title	Status
SSMVSS00017	DFSMSrmm: Provide ALL command arguments RMM dialog panels	SG - Suggested (San Diego 2007) AC – Accepted (Denver 2009) **AV – Available (Boston 2010)**
SSMVSS08006	DFSMS – ICF Catalog Size Relief	AC – Accepted (Denver 2009) **AV – Available (Boston 2010)** **(System shows RC – Recognized)**
SSMVSS07014	Provide a supported REXX interface for the System Data Mover	RC – Recognized (Orlando 2008) AC – Accepted (Denver 2009) **AV – Available (Boston)** **(System shows AC – Accepted)**
SSMVSS09006	Implement NOLIST option for RMM CLIST commands in dialog	AC – Accepted (Denver 2009) **AV – Available (Boston 2010)** **(System shows AC - Accepted)**
SSMVSS09007	Prevent RMM impact when issuing WTOR in parallel	AC – Accepted (Denver 2009) **AV – Available (Boston 2010)** **(System shows AC - Accepted)**

SHARE Requirements Summary

- Existing requirements with updated responses
  - **AV-Available**: IBM believes that the request described has been solved with a current product, service, or policy.

Requirement #	Title	Status
SSMVSS053125	DFSMS: DCOLLECT Needs to Include More Fields	SG - Suggestion (Seattle 2006) AC – Accepted (Austin 2009) AN - Announced (Seattle 2010) **AV – Available (Boston 2010)** **(System shows SG – Suggestion)**
SSMVSS064933	Catalog Support of HDELETE for DELETE GDG FORCE	RC – Recognized (San Diego 2007) AC – Accepted (Austin 2009) AN - Announced (Seattle 2010) **AV – Available (Boston 2010)** **(System shows RC – Recognized)**
SSMVSS063069 SSMVSS063070	DFSMS – Method to Empty a PDS/PDSE	AV - Available (San Diego 2007) AC – Accepted (Austin 2009) AN - Announced (Seattle 2010) **AV – Available (Boston 2010)** **(Need to check SHARE db – FITS shows Available)**

SHARE Requirements Summary

- Existing requirements with updated responses
  - **AC-Accepted:** IBM agrees with the request and a solution is desirable and feasible. IBM intends to provide a solution. However, IBM's plans may change, and no commitment is made that a solution will be provided. This response will be tracked and updated.

Requirement #	Title	Status
SSMVSS08002	Space Release will not release over-allocated space for MVS files	AC – Accepted (Denver 2009) **AC – Accepted (Boston 2010)**
SSMVSS00010	DFSMSrmm: Display ALL CDS fields in diaglog and TSO RMM LIST cmds	**AC – Accepted (Boston 2010)**
SSMVSS09005	DFHSM command to release DASD recalls	RC – Recognized (Denver 2009) **AC – Accept (Boston 2010)** **(System shows RC – Recognized)**

SHARE Requirements Summary

- Existing requirements with updated responses
  - **RC-Recognized:** IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable. No IBM commitment is made or implied as to the eventual delivery of an acceptable solution.

Requirement #	Title	Status
SSMVSS09002	Improve VSAM NSR Data Buffer Allocation Logic	AK – Acknowledged (Denver 2009) **RC – Recognized (Seattle/Boston 2010)**
SSMVSS09003	Allow LSR Buffer Pools to be allocated in 64-bit Storage	AK – Acknowledged (Denver 2009) **RC – Recognized (Seattle/Boston 2010)**
SSMVSS08005	Enhance DFSMSdss REN/RENUNC to Generically Add/Remove Levels	RC – Recognized (Denver 2009) **RC – Recognized (Boston 2010)**
SSMVSS07009	DFSMSdss RESOTRE FULL DSCHA bit based on DUMP RESET	RC – Recognized (Orlando 2008) **RC – Recognized (Boston 2010)**
SSMVSS07019	SMSPDSE latch contention	RC – Recognized (Orlando 2008) **RC – Recognized (Boston 2010)**

SHARE Requirements Summary

- Existing requirements with updated responses
  - **SG-Suggestion:** IBM will use the request as input to planning, but no commitment is made or implied. The request will not be tracked, nor the response updated.

Requirement #	Title	Status
SSMVSS07020	ICRFU & EXPORT need to utilize 100ths of a second in timestamps	AC – Accepted (Denver 2009) **SG – Suggestion (Boston 2010)**
SSMVSS09009	DFSMShsm - HSM migration sent to two different tape libraries	**SG – Suggestion (Boston 2010)**
SSMVSS09004	SMS volume selection should also use physical disk response time	AK – Acknowledged (Denver 2009) **SG – Suggestion (Boston 2010)** **(System shows AK – Acknowledged)**

SHARE Requirements Summary

- Requirements that have been previously closed

Requirement #	Title	Status
SSMVSS064955	DFSMS: Add Jobname to Catalog Record When Data Sets Are Created	AN – Announced (Denver 2009) **AV – Available (Seattle 2010)** This function is available with z/OS 1.11 **(System shows RC – Recognized)**
SSMVSS07016	Writing EOF (end-of-file) for non-SMS data sets at create time	AN - Announced (Denver 2009) **AV - Available (Seattle 2010)** This function is available with z/OS 1.11 **(System shows RC – Recognized)**

SHARE Requirements Summary

- Waiting for Response

Requirement #	Title	Status
SSMVSS09001	DFSMShsm – Protect an old single backup version.	SG – Suggestion (Denver 2009) **(Need to check SHARE db – FITS shows Suggestion)**
SSMVSS09008	DFSMSdfp - Multi volume PDSE	**AK – Acknowledged (Boston 2010)**
SSMVSS10001	DFSMSdss: FULL Volumes Operations With CPVOLUME	**AK – Acknowledged (Boston 2010)**

SHARE Requirements Summary

- New Requirements

Requirement #	Title	Status
SSMVSS10002	Excessive/invalid HSM RECALL commands generated by IKJEFT01	**New (Boston 2010)**
SSMVSS10003	HSM: Make TAPECOPY restartable after a tape takeaway	**New (Boston 2010)**
SSMVSS10004	HSM: RECYCLE should automatically restart after tape takeaway	**New (Boston 2010)**
SSMVSS10005	HSM: Provide the ability to have more than 2 copies of HSM tapes	**New (Boston 2010)**
SSMVSS10006	HSM: Segment HSM Migration and Backup Tapes	**New (Boston 2010)**

SSMVSS08001

- **Provide a command to list the contents of DFSMSdss dumps**
  - **Response: RJ – Rejected**
    - IBM does not intend to provide a solution to this request. This request has been declined.
- **Description**
  - Currently DFSMSdss does not provide a straight forward way to list the contents of a DFSMSdss dump. To list the contents of a DFSMSdss dump users needs to run a DFSMSdss restore with an execution parameter of PARM='TYPRUN=NORUN'. DFSMSdss should provide a simple command to list the contents of a DFSMSdss dump instead of making the user code a DFSMSdss restore with an execution parameter of PARM='TYPRUN=NORUN'.

SSMVSS08003

- **DFSMS – Display VVDS Catalog Cell**
  - **Response: RJ – Rejected**
    - IBM does not intend to provide a solution to this request. This request has been declined.
    - Unclear what is needed, and the submitter admits that the cell contents can be listed. It is also unclear how listing the cell contents will be beneficial in listing the contents of the data set.
    - One method to display the VVDS is to use IDCAMS PRINT using the DUMP format.
    - Another is to use DFSMSdss logical/physical DUMP.
    - Additional products such as IBM Tivoli Advanced Catalog Management may also provide some assistance.
      - *Advanced Catalog Management provides an expanded diagnostic facility that enables frequent health checks of the BCS, VVDS, VTOC, and tape management catalog structures.*
      - *This facility contains an audit-check and 'fix' capability to resynchronize entries that are in error. In addition, the diagnostic set of commands provides a safe and easy-to-use AMASPZAP-like facility to delete, print, and update BCS, VVDS, VTOC and VSAM data set structures.*
- **Description**
  - Provide a method to display a VSAM dataset's or an SMS dataset's catalog cell from the VVDS.

SSMVSS08004

- **DFSMS – Alter VVDS Catalog Cell**
  - **Response: RJ – Rejected**
    - IBM does not intend to provide a solution to this request. This request has been declined.
    - IBM Tivoli Advanced Catalog Management may provide some assistance.
      - *Advanced Catalog Management provides an expanded diagnostic facility that enables frequent health checks of the BCS, VVDS, VTOC, and tape management catalog structures.*
      - *This facility contains an audit-check and 'fix' capability to resynchronize entries that are in error.*
      - *In addition, the diagnostic set of commands provides a safe and easy-to-use AMASPZAP-like facility to delete, print, and update BCS, VVDS, VTOC and VSAM data set structures.*
- **Description**
  - Provide a SAF secured method to alter a VSAM dataset's or an SMS dataset's catalog cell within the VVDS.

SSMVSS00017

- **DFSMSrmm: Provide ALL command arguments RMM dialog panels**
  - **Original Response**: SG – Suggestion (Tampa 2007).
    - We would like to treat this as an objective. We agree with the request, but cannot always actually achieve this because of timing and other reasons. Any new command operands will be added to the dialog where we can reasonably do this.
  - **Updated Response: AV-Available**
    - RMM dialog panels IBM believes that the request described has been solved with a current product / service / policy / etc. This requirement is satisfied by z/OS DFSMS V1R11. In z/OS V1R11 both SEARCHVOLUME subcomamnd and the dialog volume search are updated to address much of this requirement. It remains a general objective to ensure that the dialog supports the new command capabilities that we provide.
- **Description**
  - RMM provides arguments in the TSO RMM commands which are not available in the RMM ISPF dialog panels (e.g. the RMM SEARCHVOLUME command fields ABEND, ACTION, LOANLOCATION, MOVETYPE, and OPEN cannot by specified when performing a SEARCHVOLUME from the RMM ISPF dialog Search Volume panel). For each field that can be specified on an RMM TSO command, there should be a similar field on the RMM ISPF dialog entry panel for that command. Further, as new fields are added to the appropriate RMM ISPF dialog panels for those commands.

SSMVSS08006

- **DFSMS – ICF Catalog Size Relief**
  - **Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - An ICF CATALOG is essentially a special form of a non-extended format VSAM KSDS. As such, it is limited to 4 gigabytes in size. Provide relief from the 4 gigabyte size restriction.

SSMVSS07014

- **Provide a supported REXX interface for the System Data Mover**
  - **Updated Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - Currently the ANTRQST and ANTQFRVL macros are the supported ways to call the System Data Mover (SDM) from a program. Both of these macros must be called from an Assembler program. IBM should provide a supported method to call the System Data Mover from a REXX program.

SSMVSS09006

- **Implement NOLIST option for RMM CLIST commands in dialog**
  - **Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - RMM added the CLIST option to the dialog, but without NOLIST, the SEARCH command often terminates for lack of TSO storage. RMM should provide the NOLIST option to suppress the hit list and allow the SEARCH to complete.
- **Benefit**
  - A previous SHARE requirement added the CLIST option to the RMM ISPF dialogs. But that function is essentially useless. Since running the CLIST option in the dialog populates Rexx stem variables, many searches will not complete in the dialog due to "Machine storage exhausted" situations. By implementing NOLIST and not populating the Rexx stem variables, the SEARCH command will likely complete.
- **Solution**
  - Add NOLIST to the RMM ISPF dialog. If NOLIST is specified in the dialog, do not return the hits to Rexx stem variables and do not display the hit list. A message that the SEARCH completed will suffice. This should allow the SEARCH command to complete without exceeding storage. The previous requirement to add the CLIST operand to the dialog panels did not concentrate on this aspect of the solution, which, in hindsight, was a mistake.

SSMVSS09007

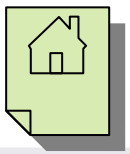
- **Prevent RMM impact when issuing WTOR in parallel**
  - **Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - When RMM is running in parallel with another tape management system and issues a WTOR, production tape mounts may wait for the RMM WTOR to be satisfied. This has caused production tape outages either due to the wait or an invalid operator reply. RMM should suppress these WTOR's by assuming replies which will allow production tape processing to continue unimpeded. This requirement is a scale back of a previous requirement to eliminate all warning mode WTOR's.
- **Benefit**
  - Both users and IBM will benefit by the elimination of production tape outages while RMM is running in parallel during a conversion.
- **Solution**
  - For example, the most common outage caused by RMM is EDG2103D when the journal fills up. RMM should simply assume a DISABLE reply, issue an informational reply, and continue to process. Halting production tape processing for RMM to offload the journal is unacceptable.

SSMVSS053125

- **DFSMS: DCOLLECT Needs to Include More Fields**
  - **Updated Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - DCOLLECT needs to be enhanced to include additional information in the DCOLLECT records. The following information should be included.
  - For the "DC" records --
    - Data set name type
    - Extended Addressability
    - Recording technology
    - Performance Scaling
    - Reuse
    - BWO
    - Log Stream ID
    - Forward Recovery Log
    - RLS CF Cache
    - Space Constraint Relief
    - Reduce Space Upt
    - Dynamic volume count

SSMVSS064933

- **Catalog Support of HDELETE for DELETE GDG FORCE**
  - **Updated Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - Need DELETE GDG FORCE to support the conversion of a DELETE request for a migrated GDS to an HDELETE. Currently this is only supported for individual dataset deletions. A DELETE GDG FORCE results in the recall of all migrated GDS's just to delete them. A DELETE GDG FORCE of a 255-entry GDG where each GDS is migrated to a different tape can take hours.



SSMVSS063069 / SSMVSS063070

- **DFSMS: Method to Empty a PDS / PDSE**
  - **Original Response:** San Diego 2007: AV – Available.
    - The function is available using STOW INITIALIZE. There is no utility to issue the function, but a simple assembler program can be written.
  - **Updated Response: AV-Available**
    - IBM believes that the request has been solved with a current product, service, or policy.
    - This function is available with z/OS 1.12 (GA 9/10).
- **Description**
  - An IBM supported single-step method is required to empty a PDS (Partitioned Data Set). The data set must be returned to the state at which it was originally allocated (such as no members, total number of directory blocks, and fully compressed status … number of extents is not addressed by this requirement). This method should be available from the BATCH and TSO environments.

SSMVSS08002

- **Space Release will not release over-allocated space for MVS files**
  - **Updated Response: AC-Accepted**
    - This response will be tracked and updated.
    - Initial support for VSAM data sets is available in z/OS V1R12, and support for sequential data is targeted to follow at a later date. .
- **Description**
  - Normal space release functions such as RLSE coded in JCL, Immediate or conditional space release in the Management class, DSS or FDR space release during defrag of compactor and the TSO FREE command will not release the over-allocated space for multivolume datasets when the data extents residing on subsequent volumes are empty. This occurs when the primary (or secondary) space allocation is excessive and causes the allocation to span volumes, when the file is populated and does not use all the space requested, space release occurs to the extent on the last volume written to. The empty space occupied by extents on subsequent volumes is not freed. This results in

SSMVSS00010

- **DFSMSrmm: Display ALL CDS fields in dialog and TSO RMM LIST cmds**
  - **Response: AC-Accepted**
    - IBM agrees with the request and a solution appears to be desirable and feasible. IBM intends to provide a solution. However IBM's plans may change and no commitment is made that a solution will be provided. DFSMSrmm plans to include this additional information for all the LIST subcommands, dialog displays and Rexx and other APIs.
- **Description:**
  - Certain data fields in the RMM CDS are not displayed in the RMM ISPF dialog or the RMM TSO command processor LIST commands. RMM should be enhanced to display all data in every CDS record, or at least provide an option to display all the fields.
- **Impact if no solution provided:**
  - Customers will not have real-rime access to important data in the RMM CDS, impacting productivity. In a critical situation, a customer could be forced to take the time to run an EXTRACT instead of issuing an RMM DISPLAY command. For large sites, the EXTRACT could take a significant amount of time in a critical situation. RMM should provide all the information in real time. Since other tape management systems provide all their information in real-time displays, customers converting to RMM would lose functionality if RMM's undisplayed fields are used to support their business processes. This creates a competitive disadvantage for RMM that may cause a customer not to convert to RMM.
- **Solution:**
  - The TSO RMM command processor should also set appropriate EDG@xxxx variables for the data to be displayed.

SSMVSS09005

- **DFHSM command to release DASD recalls**
  - **Response:** RC – Recognized - IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable.
    - IBM understands and is responding to this requirement as Recognized. There is a high likelihood that this enhancement will be added to an upcoming release.
  - **Updated Response: AC – Accept**
    - IBM agrees with the request and a solution appears to be desirable and feasible. IBM intends to provide a solution. However IBM's plans may change and no commitment is made that a solution will be provided.
- **Description**
  - Once a HOLD RECALL command has been issued, there is no way to release DASD recalls without also releasing tape recalls. The requirement asks for a way to specifically release DASD recalls.
- **Benefit**
  - If an operator experiences a major problem with a tape subsystem, s/he often responds with HOLD RECALL to avoid recall failures. However, once this is done, there is no way to release DASD recalls without issuing a general RELEASE RECALL. This reintoduces the tape issues (which can sometimes cause problems beyond a simple recall failure). This can be a serious problem if the tape subsystem will be down for an extended period of time due to maintenance (which is also more likely than having a DASD subsystem down for maintenance). Work that would otherwise be able to run is held up despite the fact all its datasets are only migrated to DASD.
- **Solution**
  - Introduce a RELEASE RECALL(DASD) command.

SSMVSS09002

- **Improve VSAM NSR Data Buffer Allocation Logic**
  - **Updated Response: RC – Recognized**
    - IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable.
- **Description**
  - Change the way VSAM allocates Data buffers to a non-shared Resources KSDS dataset that has Multiple Strings. For Example if there were 4 strings and 16 data buffers, allocate 4 data buffers to each string. Instead of the current method that allocates 13 buffers to the first string and one buffer each for the other 3 strings.
- **Benefit**
  - Improve VSAM CI I/O read ahead on CICS READNEXT commands by eliminating I/Os on all strings not just the first string. Allows better Tuning for VSAM datasets/files that are "browsed" by multiple CICS tasks at the same time.
    As CICS transaction rates increase, this allows the Buffers per String allocation in the CICS FCT to increase to keep pace with the transaction rate growth.

SSMVSS09003

- **Allow LSR Buffer Pools to be allocated in 64-bit Storage**
  - **Updated Response: RC – Recognized**
    - IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable.
- **Description**
  - Allow CICS VSAM datasets to use 64-bit storage for LSR Buffer pools.
- **Benefit**
  - This would free up a significant amount of virtual storage in the 2Gig storage area below the 64-Bit BAR. As Java, Web and SOA workloads increase in CICS, the 2Gig area is quickly running out of addressable Virtual storage. As CICS accessed VSAM datasets increase in size, this allows the Buffer allocation in CICS to keep pace with the dataset growth.

SSMVSS08005

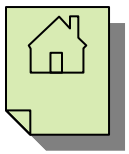
- **Enhance DFSMSdss REN/RENUNC to Generically Add/Remove Levels**
  - **Response: RC – Recognized.**
  - IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable.
    - The Development team recognizes this requirement, and it is one that has recently been reviewed for design and feasibility.
- **Description**
  - Currently DFSMSdss REN/RENUNC only allows levels to be replaced generically, and not added or removed. In addition to this existing functionality, DFSMSdss REN/RENUNC needs to be enhanced to allow levels to be added and removed generically, in addition to being replaced. Competitive products already provide this critical functionality.

SSMVSS07009

- **DFSMSdss RESTORE FULL DSCHA bit based on DUMP RESET**
  - **Response: RC – Recognized**
    - IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable.
- **Description**
  - RESTORE FULL should by default set the VTOC DS1DSCHA "changed" bits based on whether RESET was specified on the DUMP FULL. Only if RESET was specified should these bits be cleared. If RESET was not specified, DS1DSCHA bits should be restored without alteration. This is a modification of SHARE requirement SSMVSS07002, incorporating the intent of that requirement as well as what may have been the original intent of the DSS developers when the RESET option was designed.

SSMVSS07019

- **SMSPDSE latch contention**
  - **Response: RC – Recognized**
    - IBM agrees with the request and a solution appears to be a desirable objective. A solution, however, may not presently appear feasible or implementable.
    - The Development team has taken APARs OA27589 and OA30068 which should resolve this problem. The APARs will allow users to have threads made non-swappable while they are in the PDSE address space.
- **Description**
  - SMSPDSE is getting swapped out by WLM. IBM WLM support was contacted to find out if PDSE latches are being promoted of dispatching priority for latch contentions. They believe that this is not a case. The WLM folks say that unless the application (in this case PDSE) notifies SRM of potential contention issues, WLM cannot do any dispatching priority promotion to try to help alleviate any latch/lock/ENQ holding.



SSMVSS07020

- **ICFRU & EXPORT need to utilize 100ths of a second in timestamps**
  - **Response: SG – Suggestion**
    - This needs support from SMF to provide timestamps that have more than 100ths of seconds.
      - *APAR OA27834 may provide some relief until a complete IBM solution can be delivered. This APAR fix will allow ICFRU to choose the correct SMF record in the SMF record group having the same key and the same timestamp. PTFs for OA27834 are available.*
- **Description**
  - ICFRU is a catalog restoration product that utilizes SMF records 61, 65 and 66 and a catalog export backup to create a current copy of a catalog. SMF records include detailed timestamps going down to hundredths of a second. Currently, ICFRU and EXPORT work with timestamps that only go to the nearest second. This inconsistency lead to timing-related issues where some SMF records may not be chosen by the ICFRU product due to input parameters provided from EXPORT reports.

SSMVSS09009

- **DFSMShsm - HSM migration sent to two different tape libraries**
  - **Response: SG – Suggestion**
    - DFSMShsm development understands the customer requirement, but there is no commitment being made as to the eventual delivery of a solution. This requirement has been added to a list of Tape Enhancements that DFSMShsm development maintains and uses as a list of candidates for future releases.
- **Description:**
  - Support the possibility to address two different tape libraries for HSM migration.
- **Background:**
  - Normally we store original data in one house and backup data (incremental backups) in a backup house. But what about the data that is backup data from the very beginning like image copies and archive logs. There we support the application maintainers and DBAs with a specific management class EMIHSM is told to not work with these datasets. Instead a non-IBM tool scans for these datasets several times a day and migrates them to a tape library in the backup house. This tool also supports implicit recall. I.e. managed like original data (migrate/recall) but stored in the backup house and logically treated as backup data. Now we have the original databases in the original house and the image copies and the archive logs in the backup house.
- **Benefit:**
  - One non-IBM product less. Simplicity, stability and quality and in the end less cost per service unit for the business applications.
- **Solution:**
  - As example - Support dynamically sensitivity per dataset for the management class which in turn makes HSM migration to address either the backup tape library or the original tape library to be the receiver for the migration of each particular dataset. (I.e., dynamically handle two tape libraries as migration receivers simultaneously.

SSMVSS09004

- **SMS volume selection should also use physical disk response time**
  - Response: AK – Acknowledged - IBM has received this requirement and someone is evaluating it. An additional response will be given before the end of this measurement cycle (currently 90 days from the date submitted).
  - **Updated Response: SG – Suggestion**
    - *Our position is that we have made changes to accommodate allocations to SSD devices. If the right MSR is requested, then a SSD device will be selected from a SG that has both SSD and non-SSD devices. As devices get faster, we will need to make changes to allow us to specify performance in microseconds rather than milliseconds. We are not there yet.*
- **Description**
  - We need the ability to direct data set allocation based on the response time of the physical back end device(s).
- **Benefit**
  - An easier migration to newer technology and the ability to specify performance goals for data sets. The storage administrator could direct low access density (I/O per second per GB) data sets to cheaper but slower devices, and high access density data sets to faster disk drives. Currently, if different disk drives are used (with different response time capabilities), they must be defined in different SMS Storage Groups and the SMS ACS routines changed to manually direct allocation.
- **Solution**
  - The MSR (Millisecond response) time is used to distinguish between different device types. This could be expanded to also incorporate the response time of the back end disk drive. The RPM value of the hard disk drive is available to z/OS, and could be used to calculate a new MSR value. The latest MSR is for 2105. Unfortunately, this doesn't leave room for unlimited future expansion (since the values are already quite low), but would be adequate for the near future until a more robust solution is found.

SSMVSS064955

- **DFSMS: Add Jobname to Catalog Record When Data Sets are Created**
  - **Updated Response: AV-Available – This function is available with z/OS 1.11.**
    - Fields in the Format 9 DSCB added for the job name, step name and time of data set creation. Prior to this item being implemented, the only way to determine hat JOB and STEP created the data set was to track down the SMF records associated with that data set's creation, which took a considerable amount of work. IEHLIST LISTVTOC FORMAT and DUMP options will externalize the value.
- **Description**
  - When a data set is created, add the job name to the catalog record of the job creating the data set.

SSMVSS07016

- **Writing EOF (end-of-file) for non-SMS data sets at create time**
  - **Updated Response: AV-Available – This function is available with z/OS 1.11.**
    - In z/OS V1.11, DFSMSdfp processing is planned to be changed to indicate end-of-file (EOF) during the allocation of data sets on DASD that are not SMS-managed and have either sequential or an undefined data set organization. This is intended to make this processing for both SMS-managed and non-SMS-managed data sets consistent, to make it unnecessary to open data sets solely to indicate EOF, and to help prevent programs from reading old data when a data set is read immediately after being allocated.
- **Description**
  - With the advent of DFSMS, newly created sequential data sets had an end-of-file mark written at create time. This requirement suggests that this function be rolled 'down' to also include newly created non-SMS managed data sets as well.

SSMVSS09001

- **DFSMShsm – Protect an old single backup version**
  - **Response: SG- Suggestion**
    - IBM will use the request as input to planning, but no commitment is made or implied. The request will not be tracked, nor the response updated.
    - DFSMShsm development understands the customer requirement, but there is no commitment being made as to the eventual delivery of a solution. Based on the large number of higher priority requirements queued ahead of this requirement, DFSMShsm development does not want to set the customer expectation that a change is immanent.
- **Description**
  - When an old dataset (e.g. a source PDS) has not been used for a while and later on is brought back to life by a new project, then the existing old single backup version (BV) has too low protection. As the management class in this case need to have frequency 1 the old previously single BV disappears already after two days of updating because of its age. The old single BV need to protected by the "Retain days extra backup versions" to secure expected logical recovery needs.
- **Benefit**
  - Decreased possibility for loss of data when you are able to recover to the end point of the previous dataset "life time" during the entire "Retain days extra backup versions". I.e. more often relief from the indescribable huge amount of work to recreate old code.

SSMVSS09008

- **DFSMSdfp - Multi volume PDSE**
  - **Response: AK – Acknowledged**
    - IBM has received this requirement and someone is evaluating it. An additional response will be given before the end of this measurement cycle (currently 90 days from the date submitted).
    - Note from develoment: In the past, we responded to this requirement by recommending that the customer can use EAV instead of multi-volume data set
- **Description:**
  - Support multi volume PDSE.
- **Background:**
  - It's quite simple to keep the storage group utilization high by simply utilizing multi volume datasets where the allocations span to overflow (QUINEW) volumes when needed. We have seen no performance problems despite we use multi volume datasets quite much. But, when there is a PDS or a PDSE they will suffer in a setup like this. They often can't grow as wished within its single volume. I.e. we have to setup specific low utilized storage groups for PDS and PDSE because they can't grow by the multi volume model in a highly utilized storage group.
- **Benefit:**
  - Higher storage group utilization. Less PDSE expand outages.
- **Solution:**
  - Possibility to grow over several volumes like multi volume supported VSAM and PS. Details is up to the developer.

SSMVSS10001

- **DFSMSdss: FULL Volumes Operations With CPVOLUME**
  - **Response: AK – Acknowledged**
    - IBM has received this requirement and someone is evaluating it. An additional response will be given before the end of this measurement cycle (currently 90 days from the date submitted).
- **Description:**
  - Fully enable the use of the keyword FULL in conjunction with the CPVOLUME keyword for DUMP, RESTORE and COPY operations.
- **Benefit:**
  - With the expanding usage of zLINUX and zVM, we are required to perform backups on an increasing number of VM (CPVOLUME) volumes. The only available option in our environment is to perform the backups (DUMPs) from an MVS image. When specifying CPVOLUME, the FULL keyword is not available; you must perform a TRACKS operation specifying the FROM and TO cylinder and track addresses. With the advent of virtual DASD (such as the DS/8000), volumes can come in all different sizes. DSS should be able to determine the size of the volume, since it is available via at least one system interface (DevServ QueryDasd, or DS QD operator command gives this information). The use of the FULL keyword should cover all cylinders and tracks when CPVOLUME is specified, just as it does when CPVOLUME is not specified. I should not need specific DUMP JCL for differing volume sizes.
- **Solution:**
  - Left to the developers

New Requirements

SSMVSS10002

- **Excessive/invalid HSM RECALL commands generated by IKJEFT01**
  - **Response: New**
- **Description:**
  - When IKJEFT01 passes HSEND RECALL commands to HSM using a dataset pattern, the catalog should be checked to ensure that HSM does not attempt to recall datasets that are already on L0. HSM currently issues a recall regardless of catalog status. Thousands of invalid recalls can flood the system, overwhelming the CRQ and its coupling facility structure.
- **Benefit:**
  - A dramatic decrease in overhead can be realized. Fewer MWEs in HSM, fewer HSM activity records will be written. More importantly, HSM recall users will not experience recall delays when excessive CRQ utilizatoin forces HSM recalls to fall back to LOCAL mode.
- **Solution:**
  - IKJEFT01 should do a catalog check before passing the HSEND RECALL request to HSM. Any recalls for files already on L0 should be dropped before enlisting HSM for the recall.

SSMVSS10003

- **HSM: Make TAPECOPY restartable after a tape takeaway**
  - **Response: New**
- **Description:**
  - If tape take away takes a tape away from a TAPECOPY task, keep the target tapes mounted and continue copying the primary tape after the recall or ABARS backup finishes with the tape.
- **Benefit:**
  - If tape takeaway takes a tape away from a TAPECOPY task, the target alternate tape is dismounted and returned to scratch status. The TAPECOPY command has to restarted from the beginning, even if the TAPECOPY was 90+% complete. This is a huge waste of resources (MIPâ s, tape drives, and time), and it elongates the time that a primary tape does not have a copy.
- **Solution:**
  - None listed

SSMVSS10004

- **HSM: Make TAPECOPY restartable after a tape takeaway**
  - **Response: New**
- **Description:**
  - When recall or ABARS takes a tape away from recall, once the recall or ABARS backup finishes the recycle should automatically resume where it left off.
- **Benefit:**
  - Very large tapes can take a long time to recycle. If tape takeaway causes a recycle task to terminate soon after it starts, it may be several hours before the RECYCLE command is issued again. That is time that could be used to copy more data off of the tape.
- **Solution:**
  - None listed

SSMVSS10005

- **HSM: Provide the ability to have more than 2 copies of HSM tapes**
  - **Response: New**
- **Description:**
  - HSM currently provides the ability to have 1 alternate copy. Since tapes are getting larger and can contain so much data, it may not be sufficient to just have 2 copies of the data. HSM should provide the ability to create more than 2 copies. The ability to create all of the copies concurrently or some copies at a later time using the TAPECOPY command should be provided.
- **Benefit:**
  - This functionality would provide additional protection for critical business data.
- **Solution:**
  - None listed

SSMVSS10006

- **HSM: Segment HSM Migration and Backup Tapes**
  - **Response: New**
- **Description:**
  - Tapes today are very large. If HSM tapes are segmented, HSM could be changed to reuse segments that become empty. This would greatly reduce the need to recycle full tapes. In fact, RECYCLE should be changed to allow segments to be recycled. .
- **Benefit:**
  - Recycling large tapes uses a lot of MIPs and tape drives. Segmenting tapes is viewed as a potential way to reduce the overhead associated with running HSM. .
- **Solution:**
  - None listed

Trademarks and Disclaimers

The following are trademarks of the International Business Machines Corporation in the United States and/or other countries. For a complete list of IBM Trademarks, see www.ibm.com/legal/copytrade.shtml:

CICS*
DB2*
DFSMS
DFSMSdfp
DFSMSdss
DFSMShsm
DFSMSrmm
DFSORT
DFSMS
DS4000
DS6000
DS8000
Enterprise Storage Server*
ESCON*
FICON*
FlashCopy*
GDDM*
GDPS*
geoManager*
HiperSockets
HyperSwap
IBM*
IBM logo*
ImagePlus*
IMS
Intelligent Miner
Language Environment*
Lotus*
MQSeries*
Multiprise*
OMEGAMON*
OS/390*
Parallel Sysplex*
PR/SM
QMF
RACF*
Rational*
RMF
System i
System z
System z9
System Storage
Tivoli*
TotalStorage*
Virtualization Engine
VisualAge*
VM/ESA*
VSE/ESA
VTAM*
WebSphere*
z/Architecture*
z/OS*
z/VM*
z/VSE
zSeries*
zSeries Entry License Charge

The following are trademarks or registered trademarks of other companies**:**

Java and all Java based trademarks and logos are trademarks of Sun Microsystems, Inc., in the United States and other countries or both

Microsoft, Windows,Windows NT and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

NOTES:

Any performance data contained in this document was determined in a controlled environment. Actual results may vary significantly and are dependent on many factors including system hardware configuration and software design and configuration. Some measurements quoted in this document may have been made on development-level systems. There is no guarantee these measurements will be the same on generally-available systems. Users of this document should verify the applicable data for their specific environment.

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

Information is provided “AS IS” without warranty of any kind.

Trademarks and Disclaimers (continued)

NOTES:

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 are suggested US list prices and are subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or Business Partner for the most current pricing in your geography.

Any proposed use of claims in this presentation outside of the United States must be reviewed by local IBM country counsel prior to such use.

The information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM makes no representation or warranty regarding third-party products or services including those designated as ServerProven, ClusterProven or BladeCenter Interoperability Program products. Support for these third-party (non-IBM) products is provided by non-IBM Manufacturers.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. Send license inquires, in writing, to IBM Director of Licensing, IBM Corporation, New Castle Drive, Armonk, NY 10504-1785 USA.