IBM Responses to Requirements Submitted by the SHARE MVSS Project

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Agenda

- **IBM Responses to SHARE Requirements**
  - Requirements Open for Discussion
  - Existing requirements with updated responses
  - Requirements Available in R13

SHARE Requirements Summary

- **Open for Discussion**

| Requirement #	Title	Status
SSMVSS11001	**Force System Determined Blocksize (SDB)**	**Draft status in FITS database (Orlando)** Open for discussion (Anaheim 2011)
SSMVSS11003	**DFSMS: Change How System Managed Buffering Handles Empty Datasets**	**More discussion needed (Orlando)** Open for discussion (Anaheim 2011)
SSMVSS10002	**Excessive/invalid HSM RECALL commands generated by IKJEFT01**	**More discussion needed (Orlando)** AK – Acknowledged (Anaheim 2011)
SSMVSE00002	**Request New Installation Option for GDG Management - PURGE**	Open for discussion (Orlando 2011)
SSMVSE00006	**NON-SMS HFS: Provide Same Flexibility as Other UNCATLG System DS**	Open for discussion (Orlando 2011)
SSMVSS11005	**Increase the maximum VSAM Control Interval size (CISZ)**	Open for discussion (Orlando 2011)
SSMVSS11006	**Package TDMF and LDMF with DFSMS**	Open for discussion (Orlando 2011)
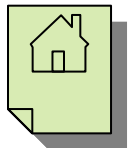
SHARE Requirements Summary

- **Open for Discussion**

| Requirement #	Title	Status
SSMVSS11007	**ACS WRITE statement during RECALL/RECOVER**	Open for discussion (Orlando 2011)
SSMVSS11008	**Update Reuse Capacity Periodically**	Open for discussion (Orlando 2011)
SSMVSS11009	**Allow MAXEXTENTS in HSM to be used with Multi-Volume Non-VSAM**	Open for discussion (Orlando 2011)
SSMVSS11010	**Remove line limit for PDSE members**	Open for discussion (Orlando 2011)
SSSTOR11002	**Single utility for COPY/MOVE/RENAME/DELETE any dataset type**	Open for discussion (Orlando 2011)
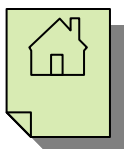
SSMVSS11001

- Force System Determined Blocksize (SDB)
  - **Open for discussion**
- Description
  - The way the Force System Determined Blocksize option of the SMS Data Class as introduced in z/OS Release 10, when set to Y, creates the belief that SDB will be forced for a given data set. This is true during the creation of the data set only. Since most user's create and then use (open) the data set, the Force System Determined Blocksize option does not work when an application program provides a blocksize value in the DCB when issuing the Open macro.
- Benefit:
  - Since most files are allocated and opened within a step, this will provide a SDB as requested in the dataclas regardless of the DCB parm
- Solution:
  - This REQUEST is being submitted as a requirement to DFSMSdfp to provide the function to actually force SBD for data sets within a Data Class for the life of the data set regardless of the presence of any coded blksize value in the DCB JCL parm or program.
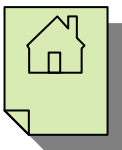
SSMVSS11003

- DFSMS: Change How System Managed Buffering Handles Empty Datasets
  - **Open for discussion**
    - We have tried to recreate this scenario in-house. We seemed not to have the same result as this customer claimed that VSAM OPEN failed when HURBA=0, SMB invoked with DO option.
    - We found VSAM OPEN was successfully opened and SMB had switched to use CO or CR option when opening an empty data set. Phil was trying to contact COBOL developer for further diagnose this failure, perhaps COBOL had caused customer's application failed in some way.

- Description
  - Currently, if a program opens a VSAM data set with an ACB that specifies MACRF=DIR (which is what COBOL will specify if ACCESS IS RANDOM is coded on the File Definition) and the HURBA is zero, the open will fail if System Managed Buffering (SMB) is invoked. SMB selects ACCBIAS=DO, and that does not work for an empty data set. SMB should check the HURBA, and if it is zero ACCBIAS=DW should be selected instead.

- Benefit:
  - The application can open a data set that has a HURBA=0 if 1) the program is changed to specify MACRF=SEQ (or any combination other than MACRF=DIR) in Assembler or ACCESS IS DYNAMIC in COBOL, or 2) codes ACCBIAS=DW in the JCL on the DD statement for the data set. The first option is actually the correct fix, but in either case is requires the application to make a change to a program or job that possibly has not changed in a number of years. If there are a lot of programs coded this way, the number of changes could be substantial. Making this change in System Managed Buffering would fix this coding deficiency without any adverse affects, and it would allow customers to continue rolling out SMB without fear of causing job failures.
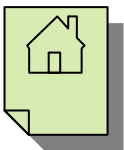
SSMVSS10002

- Excessive/invalid HSM RECALL commands generated by IKJEFT01
  - **Response: Need additional information**
    - TSO/E can not prescreen commands before passing the command string to the command processor. However, it sounds like the customer simply wants HSM to screen the command before sending it to the coupling facility? If so this requirement is for DFSMShsm.
- 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.
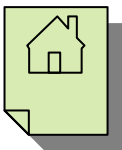
SSMVSE00002

- Request New Installation Option for GDG Management - PURGE
  - **Open for discussion**
- Description
  - With the advent of SMS managed storage, the SCRATCH and EMPTY options for GDGs are no longer sufficient to clean up old (rolled off) GDSs which were allocated with an expiration date. GDGs whose expiration date exceeds the rollover time (G0001V00 -> G9999V00), fail when attempting to rollover to G0001V00 again.
  - Prior to migrating to SMS managed storage, the rolled off generations were uncataloged and were deleted by home grown processes to delete uncataloged datasets even though their expiration date has not been reached. Now in an SMS environment, these jobs cause production work to fail at rollover (G9999v00 -> G0001V00). This occurs because an "unexpired" G0001V00 of a GDG exists on SMS managed storage (DASD or TAPE) when an attempt is made to allocate a new (+1) generation. SCRATCH/EMPTY options do not address this situation. To correct this situation, an IDCAMS job must be run to DELETE the dataset with the PURGE option.
- Benefit:
  - OW42558 would need to be re-worked to add this option for HSM migrated datasets.
- Solution:
  - The best solution would be an "installation configurable" parameter in SYS1.PARMLIB to request PURGE for GDSs which have rolled off. If not set, the system would continue to function as it now does.
- Discussion
  - I tried to open an APAR for this problem and was told by IBM that 'it is unlikely to happen so we won't accept the APAR'. So far, as far as I know, it has only happened to my installation once since converting to SMS, but I'm sure it will happen more.   Posted by: Walt Sapp of State of California - DTS (HWC)
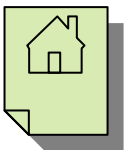
SSMVSE00006

- NON-SMS HFS: Provide Same Flexibility as Other UNCATLG System DS
  - **Open for discussion**
- Description
  - With the ability to have non-SMS managed HFSs, it should be possible to have "duplicate" HFSs in the same manner as an installation would have any System Target Data Set (i.e., duplicate names on different volumes, possibly cataloged using extended indirect volume serial numbers) and to utilize them simultaneously. Specifically, this includes:
    - Having the System recognize that same name HFSs on different volumes are unique and not have them prevented from being mounted simultaneously on the   same or different System.
    - Being able to MOUNT an HFS Data Set with Volume and Unit specifications, bypassing the Catalog, so that a specific instance of a duplicate named HFS can be explicitly mounted (typically for service).
  - Allowing same named HFSs on different volumes to be mounted simultaneously at different mount points within the same file system.
  - Basically, an installation needs the ability to manipulate and manage System HFSs in the same manner as they do the other Target Data Sets that are built and maintained (by SMP/E) on the "logical" SYSRES.
- Benefit:
  - The ability of the (forever shrinking) Systems Programming Staffs to maintain OS/390's HFS components is a substantial impediment to migrating new releases and service in a timely manner, costing additional time and manpower that could be spent more productively.
- Solution:
  - Left to the developers.
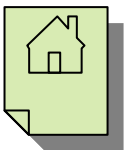
SSMVSS11005

- Increase the maximum VSAM Control Interval size (CISZ)
  - **Open for discussion**
- Description
  - CISZ(s) are currently limited to 32K, which limits the record size to 32-7 bytes. Increase the CISZs to 64K, 128K, 256K, 512K, 1024k or 1Meg. The 1Meg size would work well in conjunction with the z/OS Large page feature.
- Benefit:
  - Removing the 32k Limit on Application development will enable newer applications to be developed on z/OS, that would otherwise have to be done on "open" platforms where the 32K limit does not exist. To keep new application development on the z Platform.
- Solution:
  - z/OS does support greater than 32K I/O requests, but even if VSAM can't use them, physical records size could be used instead.
  - VSAM uses a Physical Record size, so a 64K CISZ, could be 4 physical records of 16K as an example.
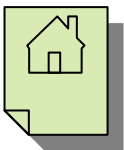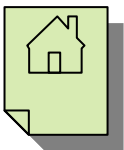
SSMVSS11006

- Package TDMF and LDMF with DFSMS
  - **Open for discussion**
- Description
  - IBM now offers software previously marketed separately as TDMF and LDMF. This may be purchased by a customer or used as part of a services engagement. This software is not installed with z/OS ServerPac but must be installed separately and perhaps in haste. DFSMS ships a number of components DFSMSdss, DFSMShsm, DFSMSrmm, that are included in the common code base but separately entitled and enabled using SYS1.PARMLIB(IFAPRD00).
- Benefit:
  - Provide a way for customers to easily keep a current copy of TDMF and LDMF on the system service updated and ready to purchase, trial, or use as part of a services engagement.
- Solution:
  - Ship TDMF and LDMF code base in DFSMS to all customers or add function to DFSMS with some alterations perhaps incorporated into DFSMSdss.
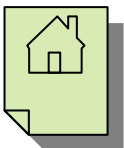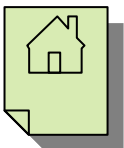
SSMVSS11007

- ACS WRITE statement during RECALL/RECOVER
  - **Open for discussion**

- Description
  - Content of ACS WRITE statement during ACSENVIR=RECALL goes to HSM Command log, instead of the user/address space recalling data set.

- Benefit:
  - IGD01008I, 09I and 10I may contain important information directed to user/address space recalling data sets.

- Solution:
  - setsys parm to allow storage admin to choose what to do with IGD010XXI message (user, hsmlog, both, none).
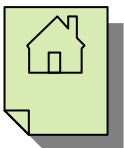
SSMVSS11008

- Update Reuse Capacity Periodically
  - **Open for discussion**
- Description
  - When DFSMShsm is started the Tape Reuse Capacity is calculated. As tape usage changes, this number is not updated causing many tapes to not be selected for RECYCLE processing. When DFSMShsm is cycled, a new Reuse Capacity is calculated causing RECYCLE to now select those tapes that should have been previously recycled. As DFSMShsm may stay running for many months, this can lead to thousands of tapes to be RECYCLED causing a peak in tape activity.
- Benefit:
  - Eliminate this peak tape activity following a DFSMShsm restart.
- Solution:
  - Create a SETSYS parm to cause Tape Reuse Capacity to be periodically recalculated. Such as daily, weekly, monthly.

SSMVSS11009

- Allow MAXEXTENTS in HSM to be used with Multi-Volume Non-VSAM
  - **Open for discussion**
- Description
  - Allow MAXEXTENTS parameter to be used with Multi-Volume Non-VSAM Data sets.
- Benefit:
  - Our shop has most of our Non-VSAM data sets defined as Multi-Volume, so the great function of MAXEXTENTS used in DFSMSHSM to cause reallocation of the Non-VSAM data sets after hitting a defined threshold, can Not be used.
- Solution:
  - Desired solution: Allow Multi-Volume Non-VSAM data sets use of the MAXEXTENTS parameter of DFSMSHSM.
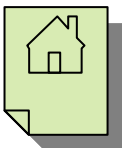
SSMVSS11010

- Remove line limit for PDSE members
  - **Open for discussion**
- Description
  - Message IEC036I 002-A8 is issued if a PDSE member exceeds 15,728,639 lines. This limit does not exist for PDS datasets. This creates situations where it is impossible to create partitioned dataset. For example, PDS is limited to 65K tracks. Once that limit is exceeded, PDSE is selected, but the 002-A8 abend occurs on a member that was successfully stored in a PDS. PDSEs were supposed to remove the limitations of PDS's, not introduce new limitations.
- Benefit:
  - Users requiring PDSE members with more than 16M lines have to resort to changing their applications to support physical sequential datasets. That is an unacceptable burden.
- Solution:
  - Remove the limit.
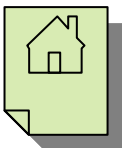
SSSTOR11002

- Single utility for COPY/MOVE/RENAME/DELETE any dataset type
  - **Open for discussion**
- Description
  - Customer should not need to know which utility to use when copying or renaming different type of dataset, i.e. IEBCOPY for PDS, IEBGENER/IDCAMs for SEQ or VSAM/PDSE/zFS etc.. DF/DSS is NOT an utility for general users. We would like to have an intuitive tool, especially one supported under batch and ISPF, for user to COPY/MOVE/RENAME/DELETE any dataset, one single interface, with no external parameters besides the Source and/or Target dataset name. Same tool as on lower platform via CUT/COPY and PASTE, RENAME and DELETE.
- Benefit:
  - Ease of use. Standard and similar methodology across all platforms to provide user an intuitive tool without awareness of dataset type. Most user are using off the shelf application products and don't know what the data depository file type is. Asking user to remember which utility to use for specific type of dataset does not project z/OS as a user friendly environment. It also increase our company's cost to train user under z/OS, making it a very undesirable platform.
- Solution:
  - Provide batch and ISPF interface to a single tool that allows user to copy/backup/cloning/rename/delete any type of dataset just by providing source and/or target dataset name. If target dataset name does not exist, allocate one with source dataset attributes. Also, would like to use ISPF OPTION 3, one entry panel to handle any dataset type. Also, please allow utility to handle multiple datasets UNLIKE the single dataset restriction for IEBGENER.

SHARE Requirements Summary

- **Existing requirements with updated responses**

Requirement #	Title	Status
SSMVSS09008	**DFSMSdfp - Multi volume PDSE**	**RC – Recognized (Orlando 2011)** AK – Acknowledged (Anaheim 2011)
SSMVSS11002	**Provide option on EDGHSKP to WAIT for datasets in use**	**RJ – Rejected (Orlando 2011)** Open for discussion (Anaheim 2011)
SSMVSS11004	**DFSMS: DATACLAS Needs Additional SMB Information**	**RC – Recognized (Orlando 2011)** Open for discussion (Anaheim 2011)
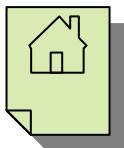
SSMVSS09008

- DFSMSdfp - Multi volume PDSE
  - **Response: RC – Recognized (Orlando 2011)**
- 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.
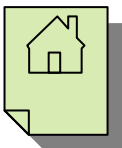
SSMVSS11002

- Provide option on EDGHSKP to WAIT for datasets in use
  - **Response: RJ – Rejected (Orlando 2011)**
    - Most of the RMM customers are running RMM across Sysplexes so any consistent solution would requirement significant investment.
- Description
  - Currently EDGHSKP generates an RC12 if any of the datasets specified to it (extract, message, activity, VRSELRPT, etc) are in use. EDGHSKP should provide an option to WAIT for the datasets to become available.
- Benefit:
  - Time lost in unnecessary reruns will be eliminated. In order for the restart to be successful, someone has to manually monitor DFRMM to determine when to rerun EDGHSKP. Regular batch jobs wait for datasets, EDGHSKP should also have that ability
- Solution:
  - Add WAIT as an option to the PARM string for EDGHSKP. The RMM started task should also WAIT if the datasets somehow become ENQ'd after EDGHSKP but before DFRMM gets control.
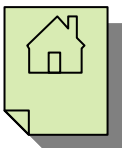
SSMVSS11004

- DFSMS: DATACLAS Needs Additional SMB Information
  - **Response: RC – Recognized (Orlando)**
- Description
  - The DATACLAS definition needs to be updated so that customers can specify ACCBIAS=SO, ACCBIAS=SW, ACCBIAS=DW, ACCBIAS=DO, RMODE31=ALL, RMODE31=BUFF, RMODE31=CB, and RMODE31=NONE.
- Benefit:
  - Having this parameters in the DATACLAS definition would prevent users from having to code them in their JCL when the defaults of ACCBIAS=SYSTEM and RMODE31=BUFF do not work for a particular job or set of jobs. It is much easier to make one DATACLAS change than potentially hundreds of JCL changes.
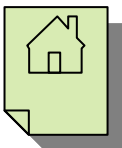
SHARE Requirements Summary

- Requirements Available in R13

Requirement #	Title	Status
SSMVSS09005	**DFHSM command to release DASD recalls**	**AV – Available (Orlando 2011)** AC- Accepted (2009)

SSMVSS09005

- DFHSM command to release DASD recalls
  - **Response: AV – Available (Orlando 2011)**
- 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.
- Impact:
  - Work is unintentionally held up for no reason. Once the error is made, it can be extremely difficult to undo if hardware work has begun in the meantime.
- Solution:
  - Introduce a RELEASE RECALL(DASD) command.
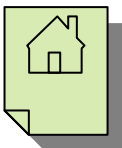
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DFSMShsm	HiperSockets	Parallel Sysplex*	VM/ESA*
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