Reinventing How You Maintain DFSMShsm with Tivoli Advanced Tools

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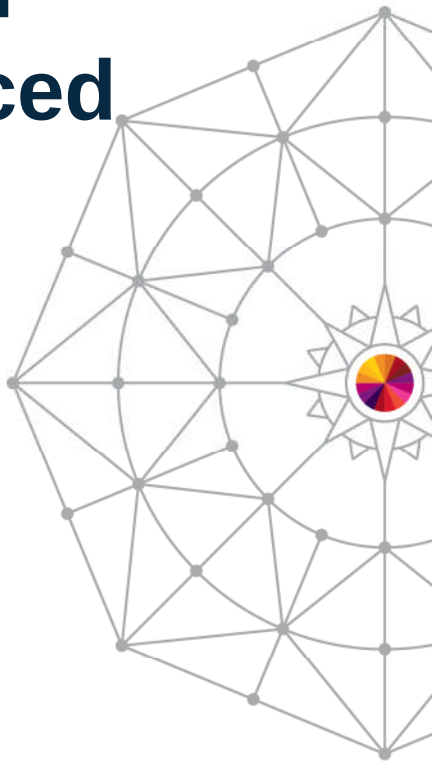


Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- DFSMShsm Best Practices is not a one time process.
  - Usually requires constant monitoring and updating.
  - What was acceptable before may not be acceptable today.
  - Is an extension to current DFSMShsm best practices.
    - Data allocation, retention and management.
  - Original Best Practice procedures may be years old and no longer suitable for current environment.
- With the Tivoli Advanced Tools you can:
  - Insure current DFSMShsm best practices are correct and up-to-date.
  - Reinvent better DFSMShsm best practices.
  - Insure the data managed by DFSMShsm is correctly managed.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

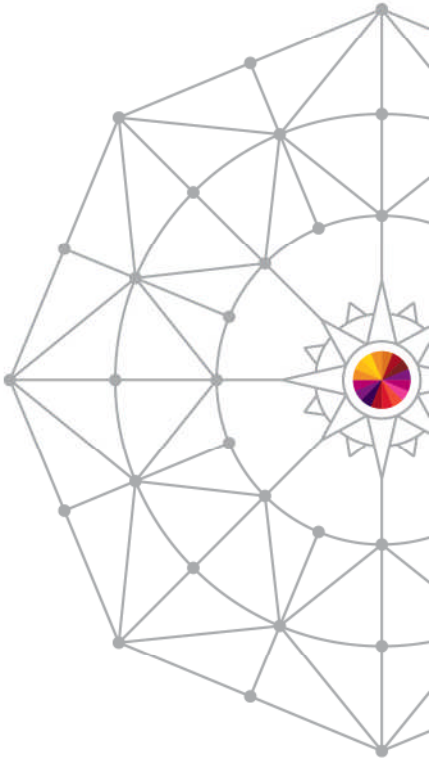
- What makes Reinventing How You Maintain DFSMShsm successful?
  - You are insuring the data managed by DFSMShsm is being managed as expected.
  - Knowing and insuring resources used by DFSMShsm are the needed resources.
- Products Used
  - Tivoli Advanced Reporting and Management for DFSMShsm (ARH).
  - Tivoli Advanced Auditing for DFSMShsm (AKD)

You are insuring DFSMShsm best practices and procedures in place are correct and accurate for today's business needs and requirements.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Where could Reinventing How you Maintain DFSMShsm help and be used?
  - Purchase of a new company/business
    - In most cases, the purchased company/business standards and procedures are copied over.
  - Business growth
    - In many situations, current practices were defined years ago and may no longer apply or be correct.
- With the Tivoli Advanced Tools you can:
  - Insure current DFSMShsm best practices are correct and up-to-date.
  - Reinvent better DFSMShsm best practices.
  - Insure the data managed by DFSMShsm is correctly managed.

Some Actual Findings Where Reinventing Can And Did Help.



Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Request 1– Customer stated that the system was continually running at 100% and HSM was the heaviest CPU user
  - The purpose of the analysis is to outline following information:
    - Where current procedures may be causing excessive DFSMShsm usage.
    - Where current procedures may be inadequate.
    - The health of the DFSMShsm environment.
    - Where new hardware/software purchases might be offset
    - Where performance tuning could help

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- What was discovered –
  - Constant High CPU Usage by DFSMShsm Task
    - Findings/Reinventing –
      - ***Recall data 'to and from' DFSMShsm daily to perform full volumes backup for disaster recovery***
        - *The table below details this process using generic numbers as an example, in reality customer was performing this same scenario daily.*

Operation	Est. #Tracks	Est. #KB2	Est. # I/Os	Est .Instructions	CPU Sec (dly)	CPU Sec (anul)
Migrate	250,000	750,000	250,000	12,500,000,000	12.50	4,562.5
Recall	250,000	750,000	250,000	12,500,000,000	12.50	4,562.5
Migrate	250,000	750,000	250,000	12,500,000,000	12.50	4,562.5
Total	750,000	2,250,000	750,000	37,500,000,000	37.50	13,687.5

        - *Customer causing DFSMShsm task to perform 3times the daily work.*
        - *Increased risk and exposure to current DR practices and procedures.*
      - ***SMS management classes allowing data stay on primary DASD for 9999 days.***
        - *Unreferenced data wasting valuable disk and storage space.*
        - *Constant growth and purchase of hardware.*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Request 2 - Constant High CPU Usage by DFSMShsm Task
  - Generation data sets assigned a common management class, which only allows the most two current generations to stay on DASD.
    - *In some instances programs are written requiring all generations of data to be read for processing.*
      - Change management class to alleviate migration/recall
      - Determine if all prior generation are needed as input and change program.
  - In-house utilities run daily to migrate files that reside in the wrong storage group.
    - *Review and update DFSMS selection criteria to insure correct SMS attributes are defined and selected.*
  - In-house exit implemented to prevent small files from being migrated.
    - Setup SMS class for data that fits criteria rather than custom exit that must be maintained by user.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How it was found?
  - Recall/Migration Numbers – Thrashing
    - The AKD and ARH products both reported high number of thrashing data sets. Using the ARH product reports were run detailing data sets migrated and recalled in 24 hours.
      - *Noticed duplicate data being migrated.*
      - *Noticed same data being recalled.*
    - Further investigation found customer was recalling all data just migrated and backing up same data for DR purpose.
    - Other recommendations included –
      - *Programs requiring prior GDG's as input keep data on primary DASD longer.*
      - *Use SMS to manage expiration of small data sets rather than in-house exits.*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How it was found?
  - Recall/Migration Numbers – Thrashing – continued
    - AKD provides 2 specialized backup reports
      - *Migrated data without a valid DFSMShsm backup*
      - *VSAM data modified and not backed up in 2+ days*
    - Report can be used for verifying data requiring a backup does have a valid backup.
  - How it was corrected –
    - This was a procedure change, customer was educated on using the ARH/AKD product.

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- Request 3 – Site trying to be proactive and reduce overall total time needed for processing batch workload.
  - They developed a procedure to help reduce the overall time batch jobs used by not needing batch jobs to wait for data to be recalled from HSM.
    - Job stream was built years ago and automation initiated the process.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- What was discovered –
  - Constant Failures in DFSMShsm
    - Site trying be proactive recalls a list of data that will be used in daily batch every evening whether it was migrated or not.
      - *At 7pm each night 100,000 HSM data set recalls commands are entered to the HSM queue resulting in 95,000 failed recalls daily.*
        - » *Most all failures were RC02 – Data Set not migrated.*
          - Same data failing recall on random selected prior days reporting.
        - » *Unnecessary waste of HSM and system resources.*
        - » *Occurrences of HSM task abending*
          - Too many MWEs being generated

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How it was found?
  - When doing a HSM Assessment one of the first areas reviewed is the work requested and performed by HSM. Here we look at what work was successfully completed by HSM what work was not successfully completed and why.
    - Questioned why there is such a high number of recall requests every day.
    - Questioned why the same data set names are constantly being reported.
      - *Customer reply was they were being proactive issuing HSM Recalls for all data needed for daily batch processing.*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

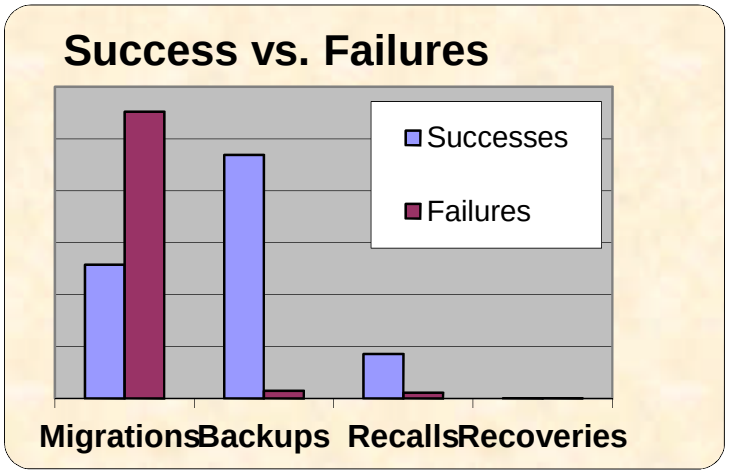
- How Reinventing helped?
  - Best practices and procedures created years ago may no longer be correct in today business and work.
    - Review current procedures created years ago, confirm they are still good for todays business needs.
      - *Review current DFSMS routines and definitions.*
      - *Review all DFSMShsm work attempted and performed.*
  - How it was corrected –
    - Defined New MGMTCLAS where needed.
    - Reviewed all data and updated to New or Correct MGMTCLAS.
- Review and understand the requests and work performed by HSM.

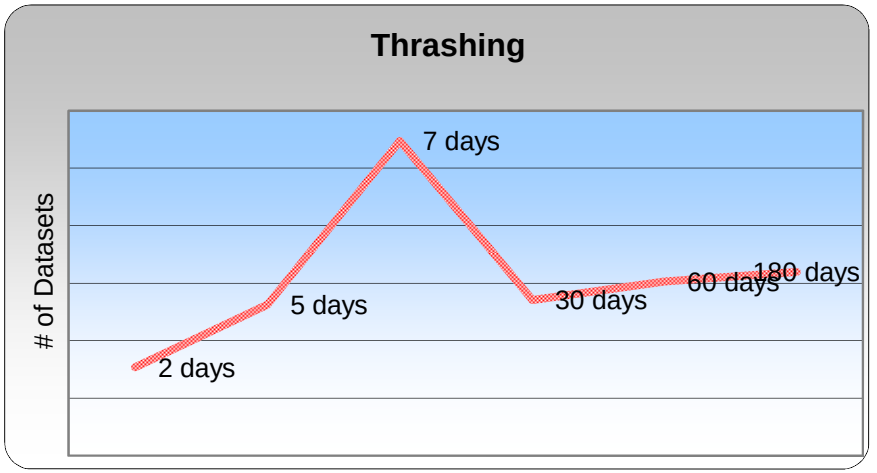
Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Request 4 – Identify areas of concern and potential problem areas such as:
  - DFSMShsm resource consumption.
  - Areas in need of tuning or change.
  - Opportunity for new insight into DFSMShsm practices.
  - Opportunity to refine certain practices and take corrective actions.
    - Failures and Errors.
    - Implementation of new DFSMShsm Best Practices.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- What was discovered –
  - As in every shop there will always be some data failing DFSMShsm management, this is acceptable as long as it is not a large number and the reason is known and acceptable
  - Many sites use DFSMShsm backups for in-house use, many times this procedure was setup years ago and never reviewed.
  - Noted data set thrashing was present in environment.





Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How was it found?
  - When looking at what current DFSMShsm practices are in place the Tivoli Advanced Reporting and Management products collects and uses different DFSMShsm data available (log, smf, fsr, mwe, etc.).
    - In this situation the customer had double the failed numbers than successful.
      - *It was determined the times specified for daily HSM processing were defined years ago when batch processing did not run as long and never retuned, over time batch ran longer and HSM was never retuned.*
    - Presence of thrashing
      - *User custom Recall clists were found in automation and being executed every Monday.*
    - Customer also showed a high number of backups daily for site.
      - *DFSMShsm was spending a lot of time and resources backing up data, it was found 80+ percent of this data was user/test data being backed up every day.*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

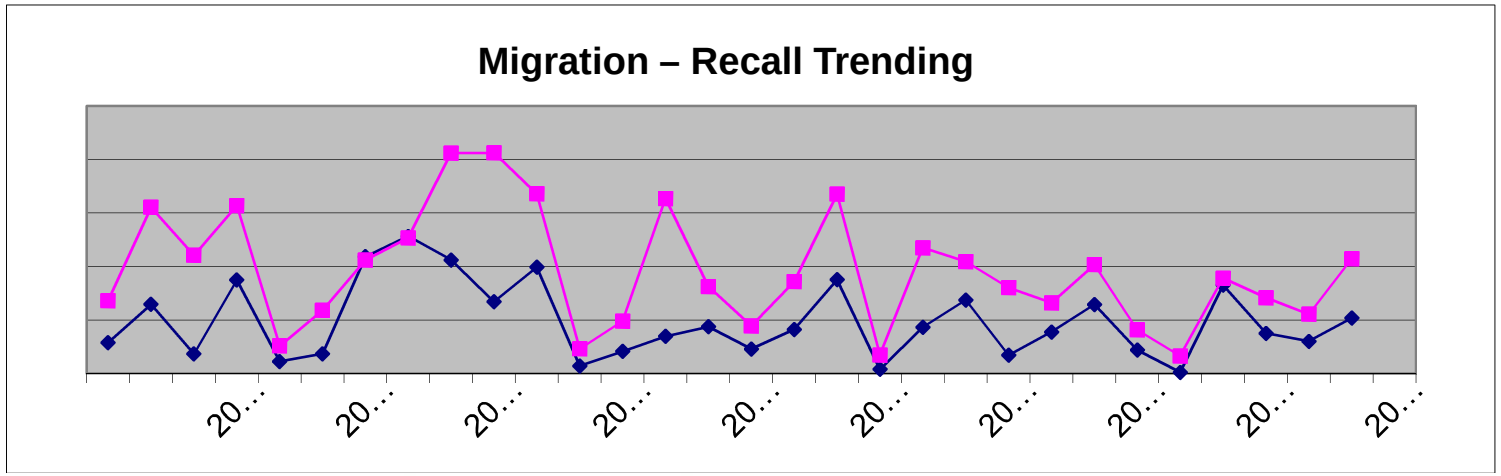
- How would Reinventing help?
  - Seeing constant daily migration failures would have alerted customer additional research is needed as to cause.
  - Seeing such a large number of HSM backups being done daily would have alerted customer.
    - Research –
      - *What data is failing, why is it failing, age of the data failing.*
      - *What data is being backed up, type of data and age.*
  - Look at -
    - Is too much of the wrong data being backed up daily (test, user).
    - Are the backup policies in place to aggressive or out of date?
    - Are the current policies and times in place too aggressive or out of date?

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Request 5 –
  - Customer requested a DFSMShsm Assessment to know and understand –
    - What they are doing right?
    - What they may be doing wrong?
    - Are there any risks or vulnerabilities to their data?
    - Is their DFSMShsm running at optimum performance?

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- What was discovered –
  - During the analysis of collected DFSMShsm data it was noticed there were constantly a high number of migrations and recalls being performed.
    - Further investigation into the migration/recalls showed it pointed to a current application and MGMTCLAS criteria.
      - *It was noticed the same data was constantly being migrated and recalled everyday.*



Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How was it found?
  - Migrations and Recalls are a normal occurrence in every shop-
    - It was noticed migration numbers were slightly higher than recalls every day in the ARH product.
      - *Detailed migration/recall information provided the following.*
        - » *Data in question were all from same applications.*
        - » *All data had the same MGMTCLAS.*
          - It was determined data was allocated to a CICS region. The data was never opened so when the regions were shut down daily HSM would migrate the data as it met the MGMTCLAS criteria. When the region was restarted next day all the migrated data was recalled. This went on for 10 years!

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How Reinventing helped?
  - Periodic analysis and review of data managed by DFSMShsm with the Tivoli Advanced tools would have reported this abnormality days, weeks, months, years ago.
    - Reported in Advanced Audit Thrashing report
    - Reported in Advanced Reporting and Management Summary Detail reports.
  - Modification to their DFSMS MGMTCLAS definitions the customer no longer migrated the application or data reducing some of the daily DFSMShsm resource usage.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Request 6 – Corrupted Data and Lost Backup Versions.
  - Customer had a situation where user was testing new application using production data as input/output.
    - User corrupted the production data.
    - DFSMShsm backed up corrupted data every night releasing and cycling all remaining backups of the data
    - User did not notify anyone of problem until it was found out weeks later.
      - *Any and all backups of good production data was released by DFSMShsm.*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Discovery – What would be the scope of the project.
  - 630 production data sets corrupted
    - 1600 DFSMShsm backup tapes
      - *Identify backup versions older than when data was originally corrupted.*
      - *Use HSM FIXCDS commands to change the BCDS information that will enable them to do HRECOVER of desired back level copy.*
        - *The application group said rebuilding each data set would take 8 hours each totaling 4800 hours.*
  - Tivoli Advanced Audit can –
    - Quickly scan the HSM tapes listing data sets found.
    - Provide the necessary FIXCDS command and steps to rebuild and reconnect valid backup back to HSM.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- What was discovered –
  - Tivoli Advanced Auditing has the functionality to rebuild lost or deleted DFSMShsm data.
    - Tape header must still be a valid header for DFSMShsm.

```
AKD720   -------  Tivoli Advanced Audit for DFSMShsm------------------
Command ===>

 You may Browse (B)  Edit (E)  Fix (F)  Help (H)  Modify (M)  History (T)
S Number         Count       Message
   8000I             0          LIST OF DATA SETS RECORDED IN MCDS/BCDS
   8001C             0          NO HSM REFERENCE FOUND FOR REQUESTED TAPE
   8C02C             0          NO MCT ENTRY WAS FOUND FOR REQUESTED TAPE
   8D02C             0          NO MCV ENTRY WAS FOUND FOR REQUESTED TAPE
   8003C             0          NO TTOC EXTENSION 0000 WAS FOUND FOR VOLSER
   8004W             0          VOLUME IS IN FAILED CREATE STATUS
   8005W             0          VOLUME IS IN FAILED RECYCLE STATUS
   8006C             0          TTOC EXTENSION RECORDS ARE OUT OF SEQUENCE
   8007C             0          TTOC EXTENSION RECORD IS CONTAMINATED
   8008C             0          TTOC EXTENSION RECORDS DO NOT MATCH EXPECTED COUNT
   8009W             0          16K BLOCK COUNT DOES NOT MATCH COUNTED BLOCKS
   8C10C             0          MCC EXISTS, NOT ON TAPE
   8D10C             0          MCD EXISTS, NOT ON TAPE
   8C12C             0          MCC MISMATCH FILE BLOCK IDENTIFIER
   8D12C             0          MCD MISMATCH FILE BLOCK IDENTIFIER
F 8020I          1132            LIST OF DATA SETS ON TAPE
****************************************************** Bottom of data *******
_
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How it was fixed?
  - AKD provides the ability to rebuild and reconnect expired HSM data.
    - All fixes are provided in the product.
    - Customer just selects what data they want to rebuild/reconnect.

```
AKD715   -------  Tivoli Advanced Auditing for DFSMShsm-----------------
Command ===>

 You may Browse (B) or Edit (E) the fix, Fix (F) the error, view Help (H),
 and View (V) or Delete (D) results
Command  Member   Action          Title
         F8020IA               HSM FIXCDS CREATE NEW MCD RECORD
         F8020IB               HSM FIXCDS CREATE ADD MCD DSORG PRIMARY VOLUME
         F8020IC               HSM FIXCDS CREATE ADD ALIAS NAME AND FBID
         F8020ID               HSM FIXCDS CREATE ADD TTOC EXTENTION AND 16K BLKS
         F8020IE               HSM FIXCDS COMMAND IF NEW (D) RECORD ADD DEVICE TYPE
         F8020IF               HSM FIXCDS TO MAKE MIGRATE TAPE A MULTIFILE FORMAT
         F8020IG               HSM FIXCDS TO MAKE BACKUP TAPE A MULTIFILE FORMAT
****************************************************** Bottom of data ******
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Sample of fixes –

```
******************************** Top of Data *******
HSM FIXCDS CREATE NEW MCD RECORD
FORMAT FOLLOWS F8020IA
 GENERATE FIXCDS COMMAND CREATE MISSING MCD RECORD
 HSEND WAIT FIXCDS D /TDSN +
 CREATE(X'00' /VOLSER) +
  ODS('/PFX.FIXAUDIT.F8020IA') LOGONLY
 HSEND FIXCDS D /TDSN +
  PATCH(6 X'8400') +
  ODS('/PFX.FIXAUDIT.F8020IA') LOGONLY
******************************** Bottom of Data *****
******************************** Top of Data ***
HSM FIXCDS CREATE ADD MCD DSORG PRIMARY VOLUME
FORMAT FOLLOWS F8020IB
 ADD DSORG AND ORIGINAL VOLSER
 HSEND FIXCDS D /TDSN +
 PATCH(40 X'/DSORG') +
  ODS('/PFX.FIXAUDIT.F8020IB') LOGONLY
 HSEND FIXCDS D /TDSN +
 PATCH(64 /OVOLSER) +
  ODS('/PFX.FIXAUDIT.F8020IB') LOGONLY
******************************** Bottom of Data *
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Sample of fixes –

```
******************************** Top of Data ****
HSM FIXCDS CREATE ADD ALIAS NAME AND FBID
FORMAT FOLLOWS F8020IC
 ADD ALIAS NAME AND FBID
 HSEND FIXCDS D /TDSN +
  PATCH(156 /ADSN) +
  ODS('/PFX.FIXAUDIT.F8020IC') LOGONLY
 HSEND FIXCDS D /TDSN +
  PATCH(208 X'/FBID') +
  ODS('/PFX.FIXAUDIT.F8020IC') LOGONLY
******************************** Bottom of Data **
******************************** Top of Data *****
HSM FIXCDS CREATE ADD TTOC EXTENTION AND 16K BLKS
FORMAT FOLLOWS  F8020ID
 ADD BLOCKS WRITTEN AND TTOC EXTENTION
 HSEND FIXCDS D /TDSN +
  PATCH(216 X'/BLKSW') +
  ODS('/PFX.FIXAUDIT.F8020ID') LOGONLY
 HSEND FIXCDS D /TDSN +
  PATCH(220 /TTCXTN) +
  ODS('/PFX.FIXAUDIT.F8020ID') LOGONLY
******************************** Bottom of Data ***
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How Reinventing helped?
  - What the customer said –
    - ‘Yesterday's visit here by you was very productive. I do think that our group will be “heroes" and be able to restore almost all of our user's data off of the "deleted backups" and "deleted migration files.“’
    - ‘It was very nice to meet you in person and we very much appreciate their time and support! Lots of happy faces around here. :-)’

- Overall Time Effort –
  - Just over 2 weeks with jobs running during normal work hours.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Request 7 – How Healthy are our Control Data Sets?
  - Customer reported many occurrences where the DFSMShsm started task would become un-responsive.
  - Customer reported the DFSMShsm started task was constantly running slow.
  - Customer reported they would need to cancel the DFSMShsm started task sometimes as many as 10 times a day.
  - Customer reported many unexplained failures when trying to recall or recover HSM managed data.

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- What was discovered –
  - Audits were NEVER run.
  - HSM started task seldom bought down normally, usually cancelled.
  - 40% of the total data managed by DFSMShsm was corrupted.

```
ENTER F FOR FIX LIST, B TO BROWSE ERRORS, E TO EDIT, M TO MODIFY AND FIX
S NUMBER     COUNT    MESSAGE
   2101W      1897   MCB IS CONTAMINATED
   2102W         0   MCB HAS DUPLICATE MCC ENTRY
   2103C       217   MCB ENTRY IS MISSING THE MCC ENTRY
   2104C         0   MCC BKUP TO LEVEL 1 HAS NO VTOC ENTRY
   2105W         0   DUPLICATE BACK-UP VOLUMES FOUND
   2106C      1692   MCC IS ON VOLUME WHICH HAS NO MCT ENTRY
   2106V        29   SUMMARY OF VOLUMES MISSING MCT ENTRY
   2107W      2000   MCC TAPE VOLUME HAS NO TTOC ENTRY
   2107V       159   SUMMARY OF VOLUMES MISSING TTOC ENTRY
   2109W   4961380   MCC ALIAS IS NOT ON TTOC
   2109V      3819   SUMMARY OF VOLUMES MCC ALIAS MISSING TTOC ENTRY
   2111W       526   MCC ENTRY IS MISSING MCB ENTRY
   2113I         0   BACK-UP TTOC VOLUME IS EMPTY
   2114W         0   BACKUP NAME EXISTS ON VTOC, MCC IS MISSING
   2115W         0   VTOC BACKUP NAME HAS VTOC ERROR
   2116W         0   MCB TRUENAME IS MISMATCHED WITH MCC ENTRY
   2117W         0   MCC ENTRY IS OWNED BY DIFFERENT MCB
   1124W         0   VALID BLOCK COUNT IN TTOC DOES NOT AGREE
   1125W         0   TTOC ENTRY MARKED INVALID, MCD/MCC EXISTS
   1126I         0   SUMMARY OF TTOC VOLUMES WITH INVALID DSNS
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

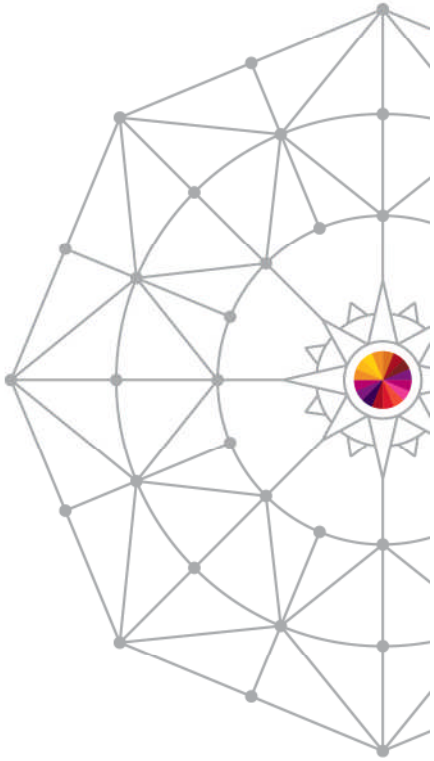
- How it was fixed?
  - AKD provides the ability to execute automatic, custom or manual fixes.
    - Created a user custom fix -
      - *if **DSN eq TST.** and STORCLAS eq STORTST then** apply delete fix.*

```
PLAN PLAN02 COND EQ 0 PLAN01
* SAMPLE PLAN TO TEST A COPY OF ARGUMENTS
 SELECT  *
 FROM  (&PFX..AKD.MASTCAT.ERRORS)          Input detailed product errors reported
 USING  &PPFX..CNTL(MASTERR)               File Map
 USE  &PFX..AKD.MASTCAT.SELECT.ERRORS      Detailed product ERRORS input file
 FROMKEY  ERRNUM = '2109W'
 TOKEY    ERRNUM = '2109W'                 Error Condition to be Automatically Fixed
 WHERE    ERRNUM = '2109W'
 AND TDSN AE 'TST.**'                      HLQ and SC Selection for Automatic Correction
 AND STORCLAS EQ 'STORTST'
* ANY COPY MEMBER STATEMENTS FOR ENHANCED PLANS WOULD GO HERE
* COPY TESTLIST
END PLAN02
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How did Reinventing Help?
  - Provided customer with total control of what errors and data to fix in what order and fix.
    - Allowed customer to first correct the errors with user test data by deleting it.
    - Resource time – 15 minutes to create and define custom fix.
  - Resubmit Audit Job
    - Resource Time – 10 seconds
  - After audit completed only production data was listed with error 2109W
    - Customer reviewed each audit run modifying automation plan.
      - *Resource time – 15 minutes s to a couple of hours depending on the data in error.*
  - Total time customer spent correcting 4,961,380 errors –
    - 40 man hours

How Easy is It To Reinvent Maintaining DFSMShsm With The Tivoli Advanced Products?

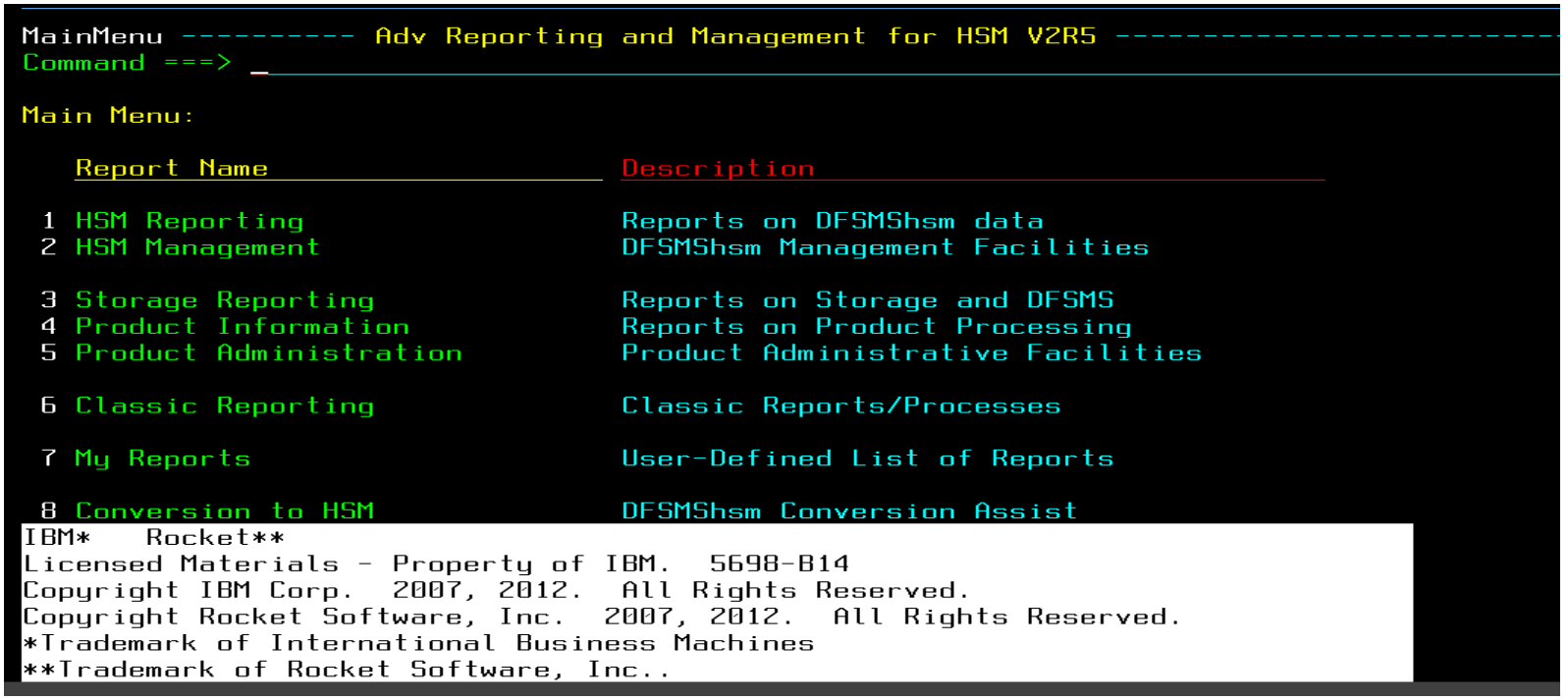


Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How easy is it to Reinvent how you manage DFSMShsm?
  - The Tivoli DFSMShsm Advanced Products provide functionality in the products other products do not have or charge extra for.
    - Reorg While Open
    - DFSMS MGMTCLAS Auditing
    - DFSMShsm data rebuilding
    - DFSMShsm Conversion Assist
    - Corruption Cost Reporting
    - DFSMShsm Cost Reporting
  - The Tivoli DFSMShsm Advanced Products provide information that assist with Tuning and Administering DFSMShsm easily.

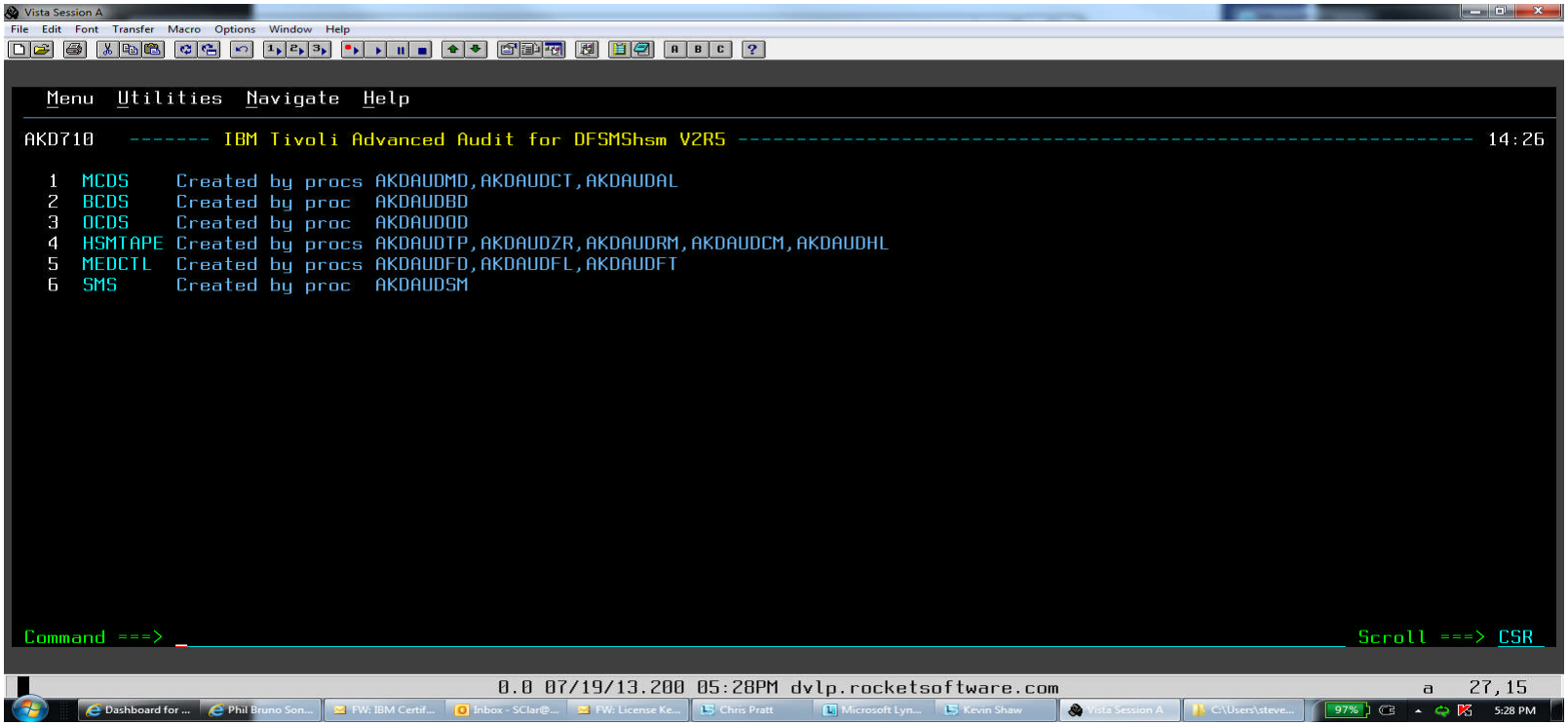
Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How easy is it to Reinvent how you manage DFSMShsm?
  - Tivoli Advanced Reporting and Management for DFSMShsm
    - To successfully Reinvent How You Manage DFSMShsm you need to functionality and information from different areas to know the change and affect.



Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How easy is it to Reinvent how you manage DFSMShsm?
  - Tivoli Advanced Auditing for DFSMShsm
    - Audit as frequently as possible.
    - IBM is always introducing NEW audits to help customers.



Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How easy is it to Reinvent how you manage DFSMShsm?
  - Tivoli Advanced Auditing for DFSMShsm
    - New DFSMS MGMTCLAS Audit – Audits defined MGMTCLAS of data on L0 back to active ACS.

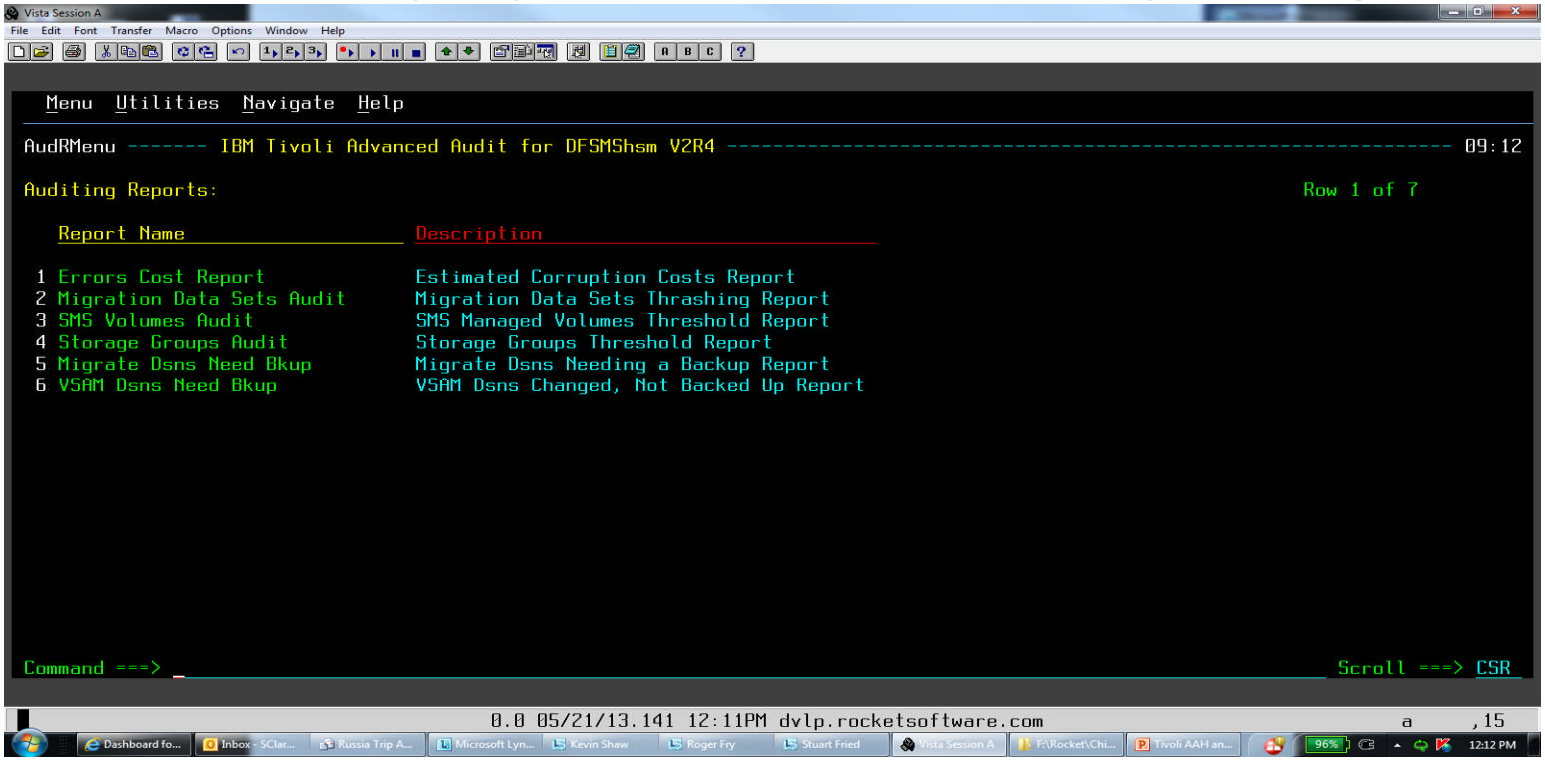
```
AKD720   ------- IBM Tivoli Advanced Audit for DFSMShsm V2R5 --------------------

 You may Browse (B)  Edit (E)  Fix (F)  Help (H)  Modify (M)  History (T)
S Number    Count   Message
   9001I     1053   MANAGEMENT CLASS MISMATCH BETWEEN VTOC AND ACS ROUTINE
********************************************************** Bottom of data *********
```

```
 BROWSE     SC.H142923
******************************************************************* Top of Data *****
9001I JHL.CREATE.LIBRARY                                TSODATA  MCAGGT   ACTIVE
9001I VCR0302.PDGALI.OUTLINK                            MCSRC    MCAGGT   ACTIVE
9001I BKM0202.EDP.ASM                                   MCSRC    MCAGGT   ACTIVE
9001I JHL.BRM0602.PARMLIB.OLD                           MCSRC    MCAGGT   ACTIVE
9001I STMB.STM0401.COMMANDS                             MCPTFT   MCAGGT   ACTIVE
9001I STMB.STM0401.PASSWORD                             MCPTFT   MCAGGT   ACTIVE
9001I VCR0302.PDSPIRI.C                                 MCSRC    MCAGGT   ACTIVE
9001I VCR0302.DANR.LIST                                 MCSRC    MCAGGT   ACTIVE
9001I VCR0302.TGA.OUTPLINK                              MCSRC    MCAGGT   ACTIVE
9001I MXH.PRD1001.ESCROW                                MCSRC    MCAGGT   ACTIVE
9001I CSJUST.WORK.LISTING                               TSODATA  MCAGGT   ACTIVE
9001I MW01.$ABEND.OUTPUT                                MCCASE   MCAGGT   ACTIVE
```

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- How easy is it to Reinvent How you manage DFSMShsm?
  - Tivoli Advanced Auditing for DFSMShsm
    - New audits provide information continually so you are aware of what is going on and where Reinventing can help.



Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Prior Topics Discussed at Share
  - The Life and Times of a Data Set: You Wouldn't Want Your Relatives Hanging Around, Why Your Data?
    - Share – Boston 2013 Session 13772
      - *Presenter – Chris Taylor - IBM*
  - Implementing DFSMShsm Best Practices with the Tivoli Advanced Products.
    - Share – Anaheim 2014 – Session 15109
      - *Presenter – Steven Clar – Rocket Software*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Closing Recap –
  - Maintaining, Implementing Best Practices or Reinventing how you maintain your DFSMShsm environment is not a one time task.
    - Company's acquire and sell portions of application(s) or businesses.
      - *This may require changes current DFSMS and DFSMShsm practices in place.*
    - Company's Grow.
      - *You will want to verify and know the data is being managed correctly.*
    - Personnel come and go.
      - *With new users come new tricks, some tricks are not acceptable, you will want to know this before your data is at risk.*

Reinventing How You Maintain DFSMShsm With Tivoli Advanced Tools

- Closing Recap –
  - You have just been shown a few actual examples of what was found and reported at customer sites.
    - In some situations the customer was not aware it was happening.
    - In some situations it was poor practices in place on how DFSMShsm was being maintained.
    - In ***ALL*** situations the customer did not know what the full negative affect was by having a poorly managed DFSMShsm environment.
  - In ***ALL*** situations the customer now knows how the Tivoli Advanced Tools ***WILL*** help them Reinvent how they Maintain DFSMShsm better.

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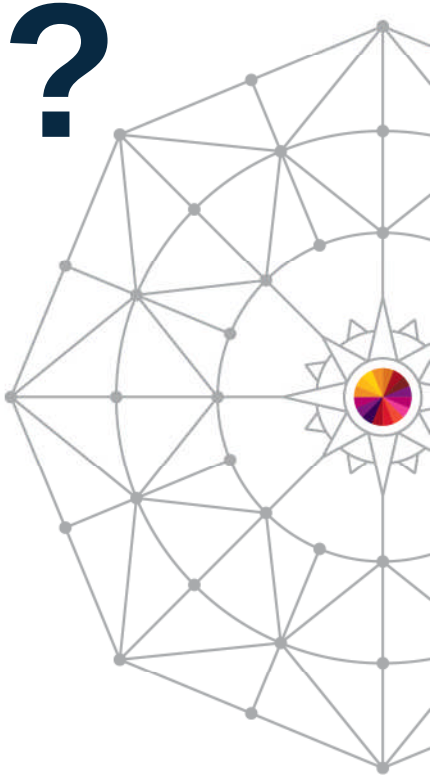
Questions?



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Reinventing How You Maintain DFSMShsm with Tivoli Advanced Tools

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Friday, August 8, 2014 @ 8:30am
Session Number 15766