

IBM System Z Storage Seminar

Tivoli software

Storage Management Landscape

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Agenda

- Roadmap
- Understanding the Foundation – DFSMS
- Extending the Foundation
- A New look for zSeries Tools
- Questions ?

The Roadmap

Comprehensive IBM System z Storage Management Architecture Components



Infrastructure Management

IBM Data Facility Product (DFSMSdfp)

IBM Removable Media Manager (DFSMSrmm)

IBM Tivoli OMEGAMON XE for Storage v4.1

IBM Tivoli Advanced Catalog Management for z/OS v1.1

IBM Tivoli Allocation Optimizer v1.2

IBM Tivoli Tape Optimizer v1.2

IBM TPC for Disk

Allows administrators to manage data and a broad range of devices such as switches, tape, removable media and storage servers

Business Continuity

IBM Data Set Services (DFSMSdss)

IBM z/OS Global Mirror v1.1

IBM Backup and Restore Manager for z/VM v1.2

IBM Tivoli Advanced Backup & Recovery for z/OS v1.1

 IBM TPC for Replication

Minimizes operational risk by ensuring business data meets backup and recovery objectives

Lifecycle and Retention

IBM Hierarchical Storage Manager (DFSMSHsm)

IBM Tivoli Advanced Reporting for DFSMSHsm 

IBM Tape Manager for z/VM v1.2

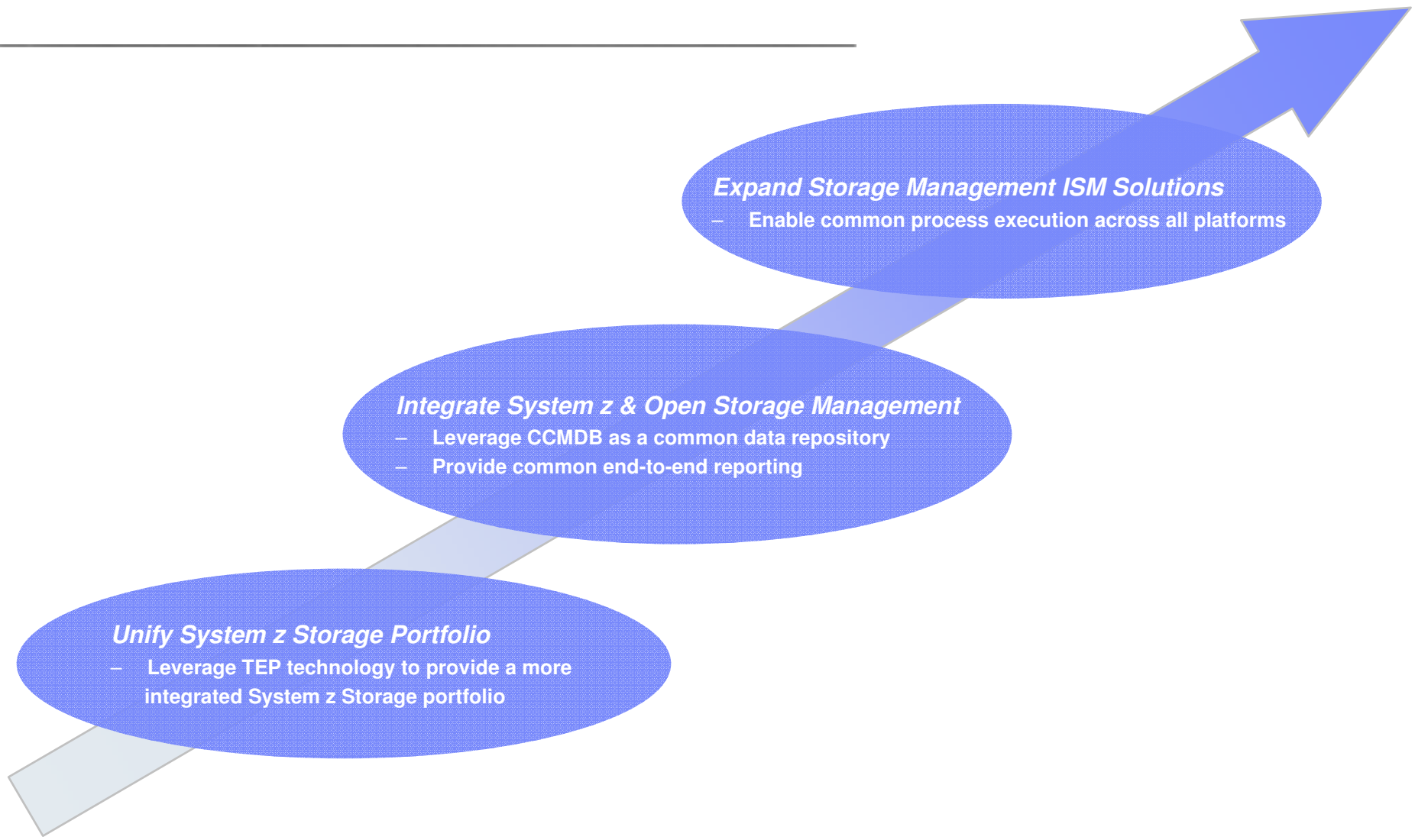
IBM Tivoli Advanced Audit for DFSMSHsm v1.1

IBM Tivoli Automated Tape Allocation Manager v2.2

IBM Archive Manager for z/VM v1.1

Helps control storage growth and control costs for data requiring long retention periods.

IBM End-to-End IBM Storage Management Direction

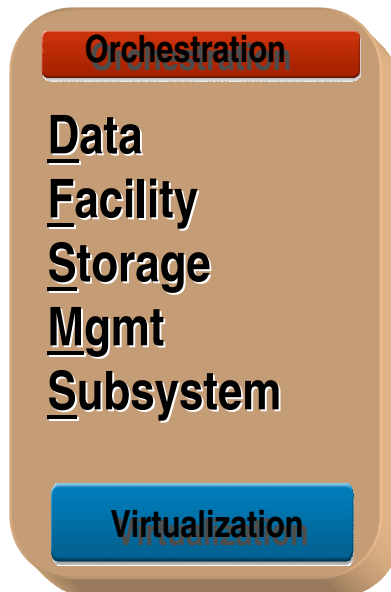


Understanding the Foundation - DFSMS

Systems Managed Storage on z/OS®



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



■ Business Continuity

- Nondisruptive Backup and Quick Recovery
- Higher Availability
- Improved Security

■ Infrastructure Simplification

- Scaling up with DFSMS
- Support Customer Growth
- Ease of Use (z/OS skilled resources are nearing retirement)

■ Information Life Cycle Management (ILM)

- DFSMS has provided life cycle management for OS/390® and z/OS data for over 17 years

DFSMS Components of z/OS

Automated and centralized storage management in the z/OS environment

Orchestration

Data
Facility
Storage
Mgmt
Subsystem

Virtualization

<u>Function</u>	<u>Component</u>
The capability to effectively access and manage data, programs, and devices. A policy based solution to automatically manage data	DFSMSdfp™ (part of base z/OS)
A reliable utility to move, copy, and backup data.	DFSMSdss™
Automatically backup, recover, and migrate all types of data. A disaster recovery solution that is automatic and policy based.	DFSMShsm™
A policy-driven solution for the management of removable media such as tape cartridges and reels	DFSMSrmm™
A utility for exchanging data between z/OS and Windows® and UNIX® platforms	z/OS NFS (part of base z/OS)

Extending the Foundation

- Allocation Optimizer
- Automated Tape Allocation Manager
- Tape Optimizer
- iRMM
- zVM Tools
- zTSM

Complementary
Products

(ICING)

Tivoli Allocation Optimizer - Overview

- Intercepts space related job failures and corrects the problem in real time.
- Helps improve storage efficiency by releasing unused space and filling volumes intelligently
- Provides reporting to analyze prevented job failures in order to help establish best practices
- Competes against BMC's Stop-X37 and CA-Allocate

Tivoli Allocation Optimizer can save customers money by eliminating abends which can significantly increase batch windows and raise the cost of processing

Tivoli Allocation Optimizer – Quick Peek

```
Session A - rs22 mod2 - [24 x 80]
Allocation Optimizer Recovery Statistics

Statistics recording started at 03/15/2004 02:13:49      Subsystem ID AOHL

Initial volume primary space allocation failures recovered..... 26
Subsequent volume initial space allocation failures recovered..... 0
Undefined secondary allocation space abends avoided (D37)..... 26
Unavailable secondary allocation space abends avoided (B37/E37)... 25
Unavailable secondary allocation space abends recovered (B37/E37). 25
Insufficient volumes defined abends recovered (B37/E37)..... 0
Possible insufficient space abends avoided (B37/E37)..... 51
Insufficient PDS directory space for member save errors recovered. 0
Space release option added to primary or secondary allocation..... 154

*****
*
* Total number of abends and errors either avoided or recovered 307 *
*
*****

Assuming that 307 outages were resolved manually, at an average of 15 minutes each =
76.75 hours. Further assuming the Meta Group's ATM service fee hourly impact of
$14,500, these outages would have cost $1,112,875

MA a A 01/001
```

AO – Summary Screen

Welcome SYSADMIN
Tivoli Enterprise Portal Log out

File Edit View Help

View: Physical

- Enterprise
- z/OS Systems
- SP13
 - Allocation Optimizer
 - S3ACB14 :SP13.AO
 - Allocation Optimizer Event Data
 - Catalog Management
 - DFSMSshm Audit
 - Storage Subsystem
- SYS

Subsystem	Count
AOPT	11

Event Type	Count
NOTCAT2 SCRATCH	1
NOTCAT2 JCLFAIL	1
Space release added	1
Insufficient PDS directory blocks	1
Insufficient volumes	1
Excessive secondary extent	2
Secondary allocation space failure	1
Insufficient secondary space	1
No secondary space specified	1
Insufficient initial primary space	1

ITAO Event Detail

Record Time	Event Processed	Job	Step	Procedure Step	DD	Dataset	SMS Managed	SMS Data Class	SMS Storage Class	SMS Management Class
10/14/07 23:23:56	NOTCAT2 JCLFAIL	TEHRLVP1	NOTCAT2		SYSUT5	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:56	NOTCAT2 SCRATCH	TEHRLVP1	NCATSCR		SYSUT7	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:55	Insufficient PDS directory blocks	TEHRLVP1	DIRINC		DD21	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:52	Insufficient volumes	TEHRLVP1	VOLADD		SYSUT4	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:52	Space release added	TEHRLVP1	SECREL		SYSUT2	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:51	Secondary allocation space failure	TEHRLVP1	SECRED		SYSUT3	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:51	Excessive secondary extent	TEHRLVP1	SECINC		SYSUT2	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:51	Excessive secondary extent	TEHRLVP1	SECINC		SYSUT2	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:51	Insufficient secondary space	TEHRLVP1	SECBEST		SYSUT2	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:50	No secondary space specified	TEHRLVP1	SECALLOC		SYSUT2	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			
10/14/07 23:23:50	Insufficient initial primary space	TEHRLVP1	PRIMRED		SYSUT2	TEHRL2.NONSMS.S3410R14.GLO.TEST.DATA	NO			

Hub Time: Mon, 10/15/2007 03:38 PM
Server Available
Allocation Optimizer Event Activity - 9.52.104.198 - SYSADMIN *ADMIN MODE*

Complementary
Products

(ICING)

Tivoli Allocation Optimizer - Strengths

- Simplified Parameter Syntax
- Standard Batch and Online Reporting
- PDS Support
- SMS and non-SMS Support
 - **Support for Extended Format Datasets**
- VSAM and non-VSAM Support
- Rapidly Growing Syntax Tree
- TEP Enablement

A brown, rounded rectangular badge with a slight shadow effect, containing the text "Complementary Products" in black.**(ICING)**

Tivoli Automated Tape Allocation Manager

- Allows multiple systems to share a common tape pool
- No dependency on sysplex or shared DASD
- Global command capability improves usability
- Competes directly against CA's MIM-MIA and BMC's TapeSHARE

ATAM can help customers reduce the cost of their tape environment by allowing them to share a common pool of tape devices across all of the zSeries systems in their environment

Current Status

```

Session A - rs22 mod3 - [32 x 80]
----- ATAM Current Status ----- Row 1 of 216
Command ==> _____ Scroll ==> PAGE

Configuration data set: 'ATH.WRK0220.ATHCONFIG'

Discovered . . . . . : 54          System name . . . : RS22
Selectable . . . . . : 0          User ID . . . . . : PDBICE
Allocated . . . . . : 0          Today's date . . . : 2007/08/07
Pending offline . . . : 0        Version . . . . . : V2R02M00
Online . . . . . : 28           Status . . . . . : ACTIVE
Successful allocations: 0        ATH Service Task: ATH220I
Allocation failures . : 0        Start date . . . . : 2007/08/07
Forced waits . . . . . : 0       Start time . . . . : 09:20:35

Major Command: VIEW { SYS ALL SEL ONL OFF ALLOC EXCL PEND MOUNT }

----- All units -----
Line Commands: A-Allocations
                S-Make unit selectable
                X-Exclude unit
                +>

CMD  Unit  System  Selectable  Online  Allocated  Pending Off
----  ---  -----  -
0500 RS21   RS21     N           N       N           N
0500 RS23   RS23     N           N       N           N
0500 RS25   RS25     N           N       N           N
0500 RS22   RS22     N           N       N           N
0501 RS21   RS21     N           N       N           N
0501 RS23   RS23     N           N       N           N
0501 RS25   RS25     N           Y       N           N
0501 RS22   RS22     N           N       N           N
0502 RS21   RS21     N           N       N           N
0502 RS23   RS23     N           N       N           N
0502 RS25   RS25     N           N       N           N

M&A  a
                                           02/015
    
```

Line commands can be entered to mark devices selectable or excluded

Tivoli Automated Tape Allocation Manager - Strengths

Complementary
Products

(ICING)

- Easy Installation
 - **Single exit point**
- Extremely Small Software Footprint
 - **Entire software package less than 3MB**
- Easy to Deploy
 - **No device ownership, ATAM uses what's there**
- No Single Point of Failure
- Flexible Configuration Options

Complementary
Products

(ICING)

Tivoli Tape Optimizer - Overview

- DFSMSrmm Specific Tape Stacking and Media Migration Tool
 - **Our ISVs support DFSMSrmm, this is new for IBM**
- Common Requirement When Replacing CA's Tape Managers
- Helps Manage Implementation of New Tape Libraries
- Manage Migration Away From Older Media
- Improve Tape Utilization/ROI

Tivoli Tape Optimizer – Quick Peek

Complementary Products

(ICING)

```

Session A - rs06 mod3 - [32 x 80]
-----
Menu          Filters          Options          Help
-----
      IBM Tivoli Tape Optimizer on z/OS - Create/Edit Request -
OPTION ==> _____

Specify a tape unit name or storage class (STORCLAS):
Input Tape Esoteric or Generic Unit Name . . . . . CXCART__
Input Tape SMS Storage Class . . . . . _____

Output Tape Esoteric or Generic Unit Name. . . . . CXCART__
Output Tape SMS Storage Class. . . . . _____

Stack input tape volumes on output tapes . . . . . / "/" to Select

Enter END to continue or CANCEL to return without saving.

Enter the list of TAPE data sets to be included in the copy request. You
can enter a full data set name or a mask.

      Full Tape Data Set Name or Mask
      FIN.**_____
      _____
      _____
      _____

***** Bottom of data *****

Mâ a                                     04/014
    
```

Complementary
Products

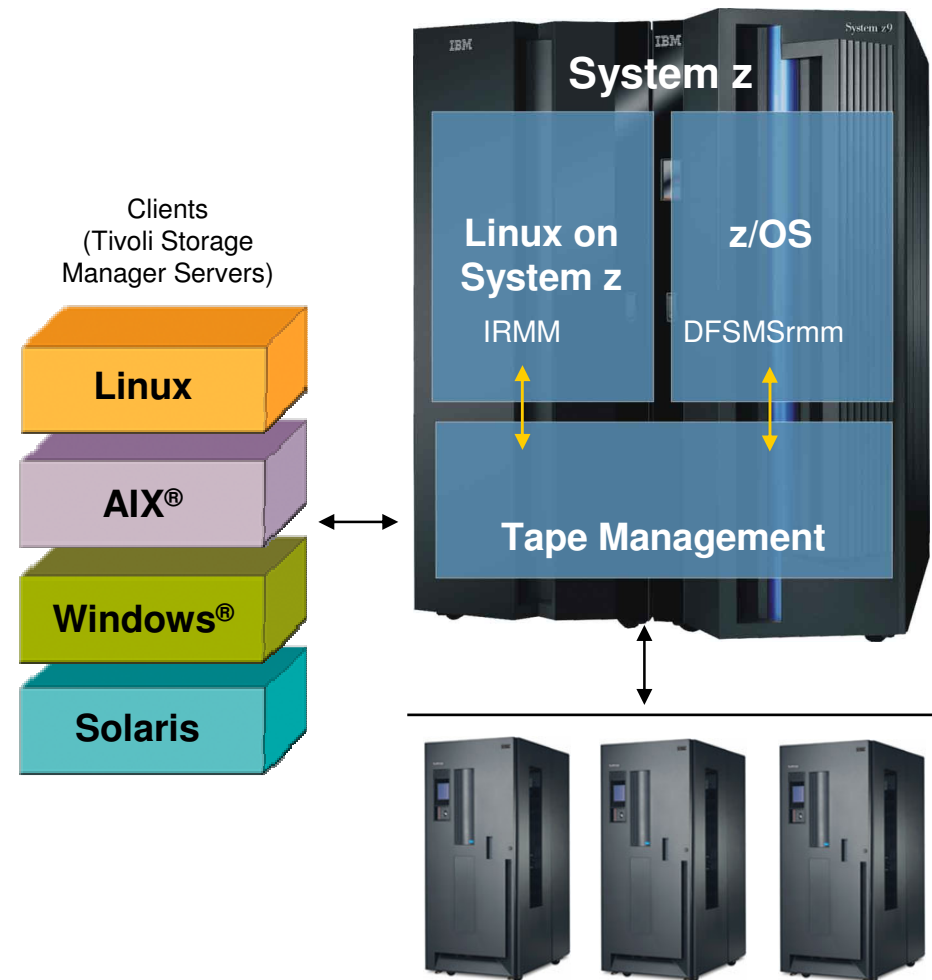
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Tivoli Tape Optimizer - Strengths

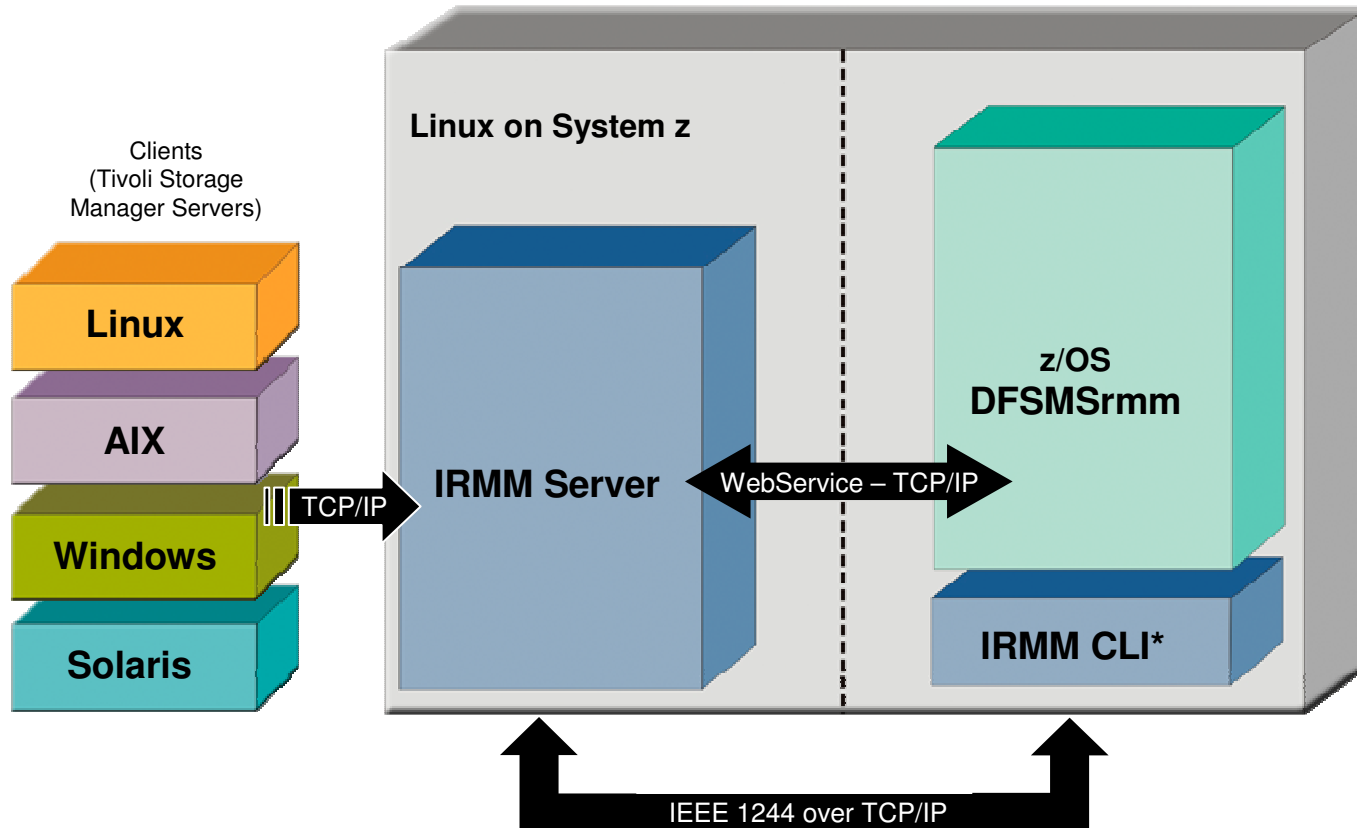
- Easy to Use ISPF Interface
- Ability to Build Control Cards Allows For Easy Task Definition Outside of ISPF
- Flexible Selection Criteria
- Ability to Consolidate Active Data To Improve Tape Utilization

Enterprise Tape Management - iRMM

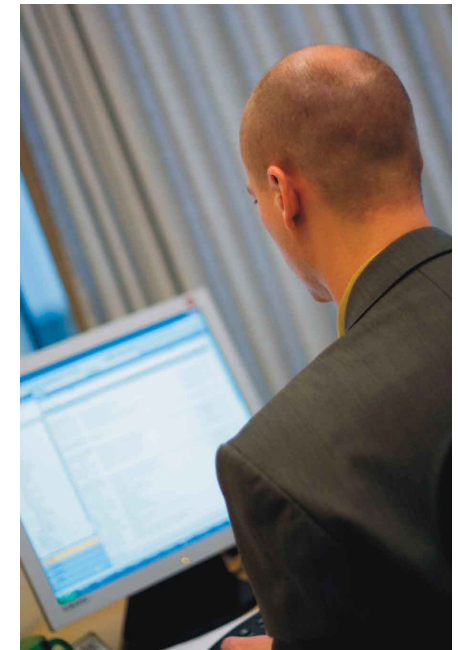
- **Reduction of TCO for Removable Media Infrastructure by:**
 - Centralizing management, administration and reporting services
 - Enhancing resource utilization through intelligent, dynamic sharing of libraries, drives and cartridge pools
 - Virtualizing libraries, drive pools and cartridge pools
 - Helps to eliminate changes or downtime for upgrading storage technology
- **Enabling enhanced Media Protection and Security by:**
 - Tracking of access throughout the whole media lifecycle enables audit trails
 - Security model including access control supports regulation compliance
- **ILM Integration of Removable Media by:**
 - Seamlessly integrating Removable Media in the On Demand storage environment
 - Movement of data according to management policies



Integrating IRMM and DFSMSrmm

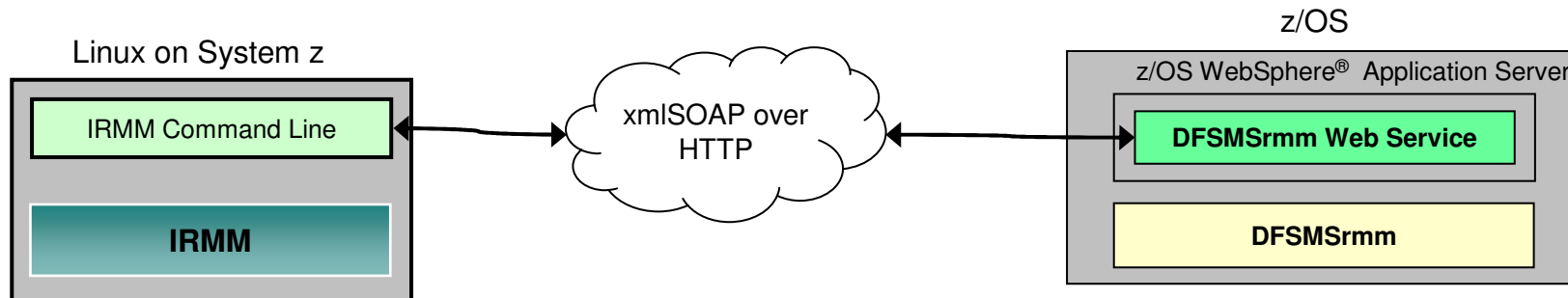


* Can run on Linux on System z as well



Operator can use z/OS to manage both z/OS and distributed environment!

Integrating IRMM and DFSMSrmm (continued)



```

ermmtool> lsrmwvol -s 9.11.214.154
Volume  Type  Owner  State  HLOC  Voltype
-----
A00001  ETC    CHKEIL MASTER SHELF  PHYSICAL
A00003  ETC    ERMM   USER  SHELF  PHYSICAL
483AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
485AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
486AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
488AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
490AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
491AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
495AFQ  ETC    ERMM   USER  SHELF  PHYSICAL
    
```

```

DFSMSrmm Volumes (Page 1 of 2)                               Row 1 to 9 of 9
Command ==> _____ Scroll ==> PAGE

Enter HELP or PF1 for the list of available line commands
Use the RIGHT command to view other data columns
  Volume  Assigned  Expiration S  Dest-  Tr-  Data
 S serial Owner   date       date       R Status Location ination  ans sets
-----
  A00001  CHKEIL   2006/116   2006/121   MASTER SHELF      N  0
  A00003  ERMM     2006/116   2006/121   USER  SHELF      N  0
  483AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
  485AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
  486AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
  488AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
  490AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
  491AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
  495AFQ  ERMM     2006/116   2006/121   USER  SHELF      N  0
***** Bottom of data *****
    
```

- Consolidated view on tape resources
- Open systems interface to DFSMSrmm

- Consolidated view on tape resources
- Centralized retention, movement and vaulting capabilities
- Policy-based management of all cartridges (z/OS and open)

IRMM Summary

- **IRMM is a new robust middleware product for Linux on System z that is designed to:**
 - **Help significantly reduce operational costs by centralizing pro-active tape resource management**
 - **Provide new efficiencies through its tape library virtualization technology and through integration with z/OS and DFSMSrmm**
 - **Enables enhanced media protection and security by providing audit trails and access control that support regulation compliance**
- **IRMM is based on technology that already has proven its value in everyday production use in large environments**
 - **IBM Service Offerings have been in use by customers since 3Q2005**
- **For additional information:**
 - **IRMM – www.ibm.com/nnn/nnn/**
 - **Linux on System z – www.ibm.com/systems/z/os/linux**
 - **z/OS – www.ibm.com/servers/eserver/zseries/zos/**
 - **z/VM® – www.ibm.com/eserver/zseries/zvm**

z/VM Tools

- Tape Manager for z/VM
- Backup and Restore Manager for z/VM
- Archive Manager for z/VM
- Operations Manager for z/VM*

Complementary
Products

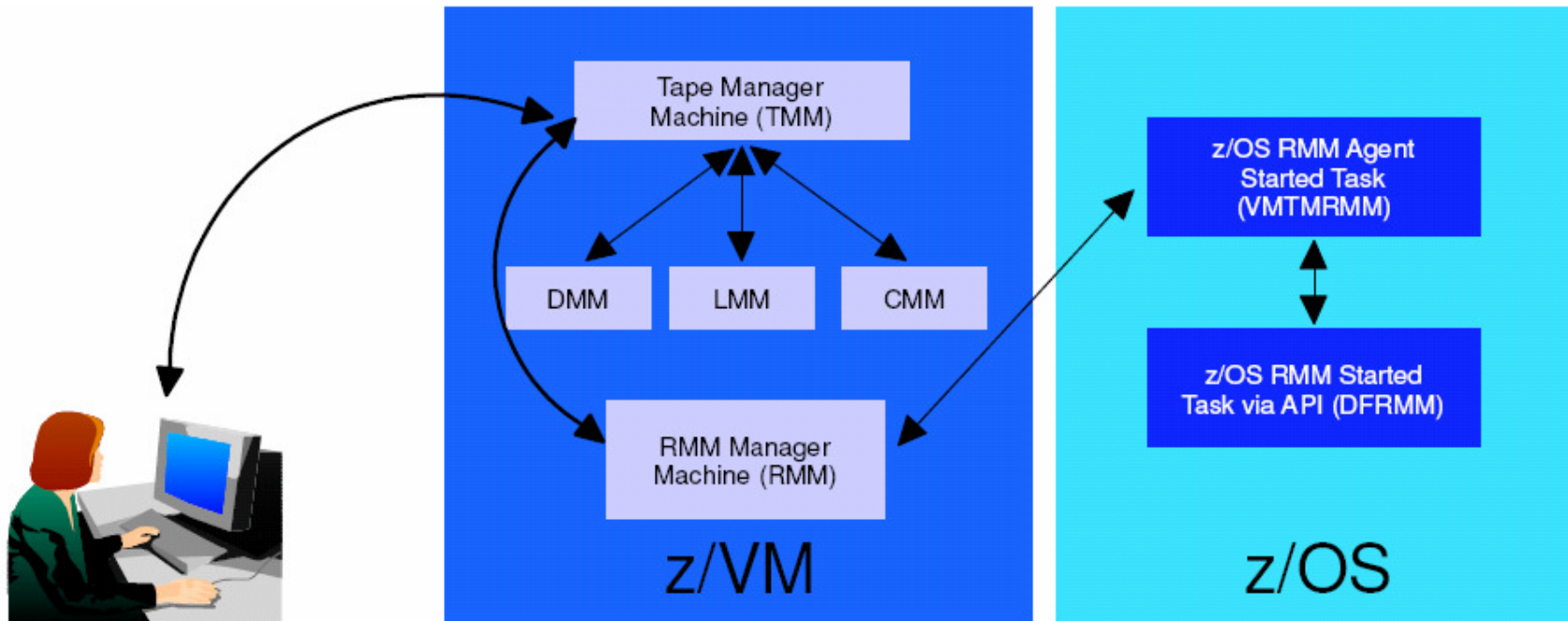
(ICING)

Tape Manager for z/VM - Overview

- Dynamic sharing of existing tape devices between multiple images
 - Devices must be assignable and not using multiuser attach feature of z/VM
- Effective management of tapes in ATLS
 - Granular access control
 - Expiration processing
 - Notification of low threshold for tape resource
 - Utilization information provided per pool
 - Report created and sent to administrator after expiration processing
- Improved accuracy of manual tape processing
 - Automatic request and notification of manual mounts
 - Internal label verification at attach/give and detach
 - Read/Write verification
- Optional use of RMM as the tape catalog
 - Tapes, access control, and retention managed by existing RMM catalog
 - Accessible via commands on z/VM

Tape Manager for z/VM enables system controlled tape sharing in a z/VM environment

Tape Manager with DFSMSrmm – Quick Peek



- Communication within z/VM is via SMSG/IUCV
- Communication between z/VM and z/OS is via TCP/IP

Backup and Restore Manager for z/VM - Overview

Complementary
Products

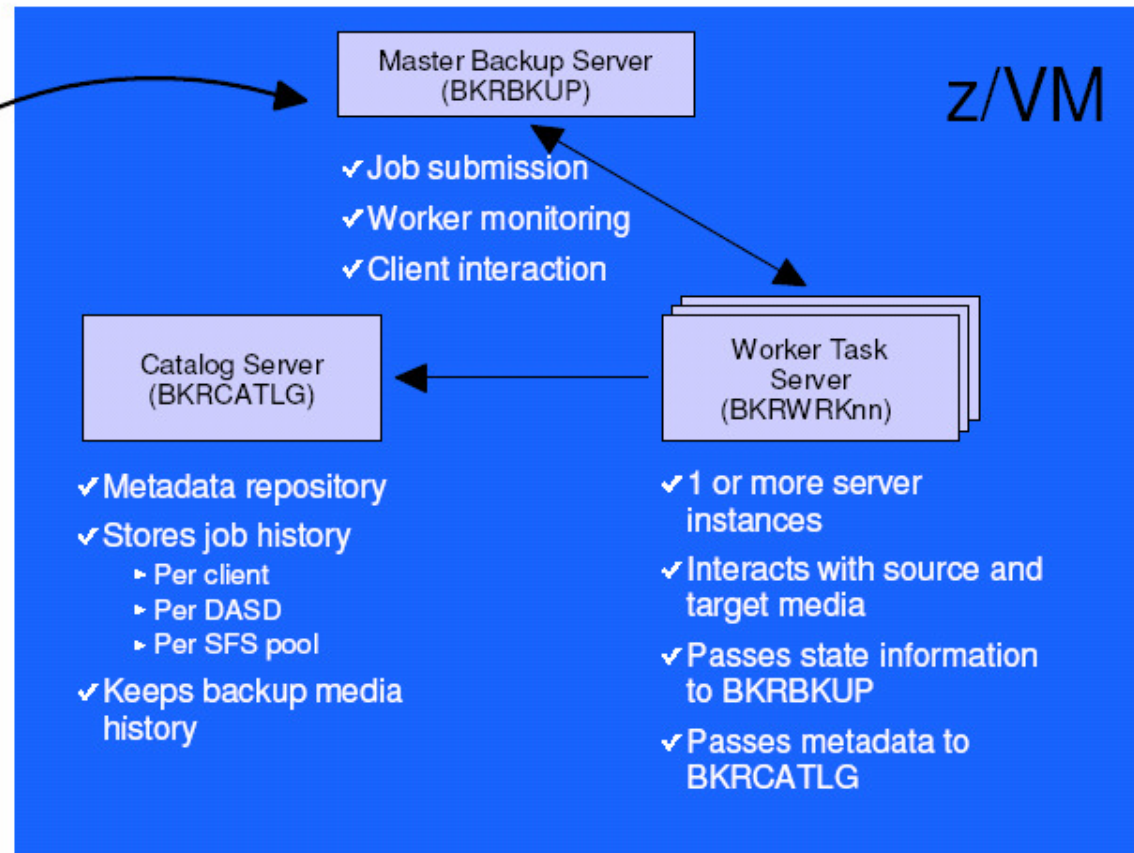
(ICING)

- Modular design with an eye to the future
 - Data handlers for each data type (minidisk, SFS, ECKD, reader)
 - Media drivers for each media type (tape, twin tapes, CMS file)
- Standard CMS interfaces
 - Support for new hardware when CMS supports it
 - Backup/restore catalog housed as a hierarchical structure in SFS
- Documented interfaces to data packaging tools
- Review of a defined backup job before submission
- Reduced backup window with concurrent processing
 - Multiple service machines sharing the job
 - Assigned by master server
 - Backups to tape mean 1 server for each tape drive available
- Automatic aging and pruning of the backup catalog

Backup and Recovery Manager for z/VM enables centralized backup management on z/VM

Backup and Restore Manager – Quick Peek

→ Communication is via
MSG/IUCV



Archive Manager for z/VM - Overview

Complementary
Products

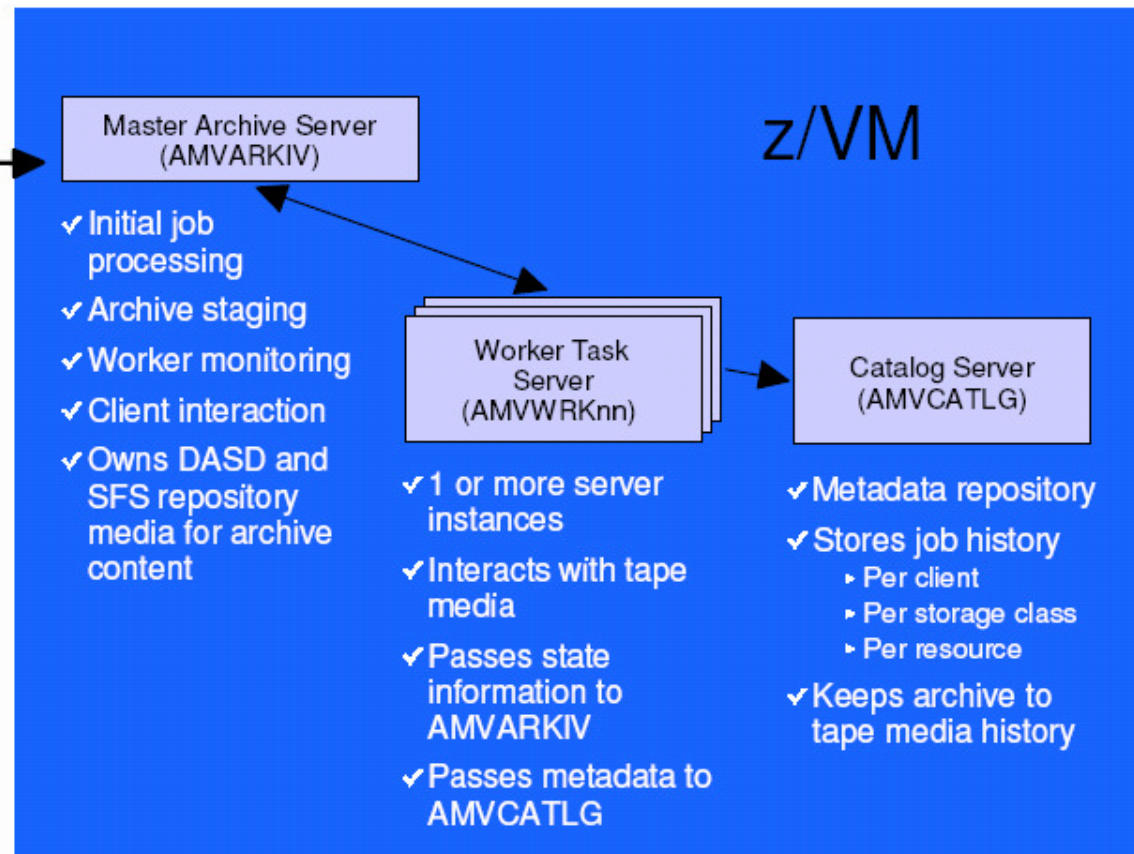
(ICING)

- Based on design of Backup and Restore Manager
 - Modular data handlers and media drivers
 - Catalog housed as a hierarchical structure in SFS
 - Standard CMS interfaces
 - Recalls with original date
 - Expiration processing
- Asynchronous user interface
 - Immediate (synchronous) notification if no files found to archive
 - User warned not to modify files until archive complete
 - User notified when archive or recall is complete
- Concurrent processing available when tapes are involved
 - Multiple service machines available
 - 1 job assigned to 1 service machine
 - Assigned by master server
- Automatic aging and pruning of the archive catalog and data
 - Tape consolidation available to remove gaps created by expired archives

Archive Manager for z/VM enables Advanced Storage
Management on z/VM

Archive Manager – Quick Peek

→ Communication is via
SMSG/IUCV



Complementary
Products

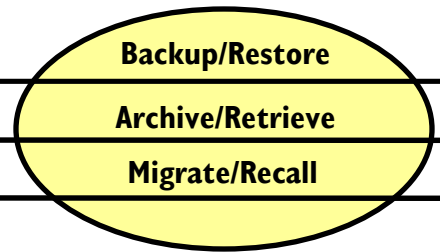
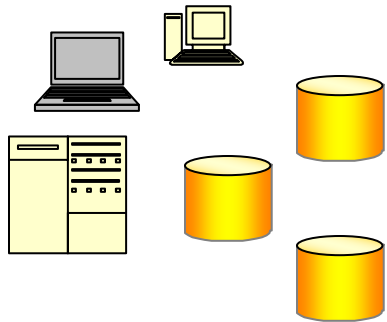
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z/VM Tools - Strengths

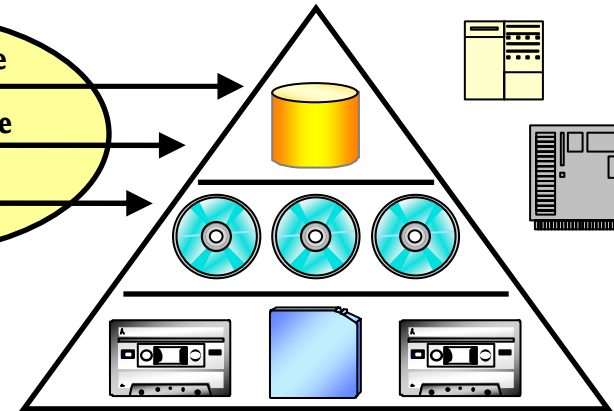
- Demand Increasing for z/VM Solutions due to growth of zLinux Popularity
- Offering IBM Alternatives to ISV offerings
- Extending z/OS Capabilities to z/VM
- Leverage z/OS Tools
 - ATAM
 - DFSMSrmm

zTSM

TSM Clients



Network



Data Management Services

- Backup/Recovery
- Archive/Retrieve
- Backup/Archive API
- Hierarchical Storage Management

Storage Management Services

- Hierarchical Storage Management
- Reclamation
- Collocation

zTSM - Overview

- Backup and Recovery Solution for Distributed Data
- Policy Based Controls
- Advanced Application Interfaces
 - **Backup while open**
 - **Enhanced coordination with data owning applications**
- Exploit Hardware Capabilities
 - **Lan Free functionality**

zTSM enables the functionality of TSM, but leverages mainframe resources and practices.

zTSM - Strengths

- **Improved Application Availability**
 - Speed recovery of files, file systems or bare machines
 - Include file recovery in a comprehensive data disaster recovery plan
- **Optimized Storage Resource Utilization**
 - Optimize backup granularity
 - Store backup copies in a hierarchy of lower-cost storage – the specific level chosen to optimize cost against recovery time objective
- **Enhanced Storage Personnel Productivity**
 - Create a single point of control, administration and security for file recovery

A New Look for zSeries Tools

Tivoli Advanced Catalog Management for z/OS

ACM – Catalog Summary

DataPower Configuration - tep-srv - RPENNY

File Edit View Help

View: Physical

Servers

- Alias Growth
- Catalog Dataset Attributes
- Catalog Summary
- Catalog Volume Summary
- Cache Performance
- Last Catalog Backup
- Storage Subsystem
- CANSDSST:RS22:STORAGE
 - Application Summary
 - Channel Path
 - Cache CU Performance
 - Cache CU Status
 - Logical Control Unit
 - Tape Group
 - Virtual Tape Subsystems
 - SMS Storage Groups Performance
 - SMS Storage Groups Space

Report

Catalog Name	Volume Serial	Extents	Strings	Catalog Type	Last Backup Date	Last Backup Time	Timestamp
ICF.RSPLEX01.DB2.CAT1	DBP13C	56	2	User	n/a	n/a	06/08/07 09:44:29
CATALOG.RSPLEX01.USERCAT	S1P101	30	2	User	n/a	n/a	06/08/07 09:44:29
ICF.RSPLEX01.TSO.CAT1	TSP100	26	2	User	n/a	n/a	06/08/07 09:44:29
ICF.RSPLEX01.DEV.CAT1	DVP101	12	2	User	n/a	n/a	06/08/07 09:44:29
ICF.RSPLEX01.FTR.CAT	FTP102	11	2	User	n/a	n/a	06/08/07 09:44:29
CATALOG.RSPLEX01.OMGR.CAT1	OMR100	10	2	User	n/a	n/a	06/08/07 09:44:29
ICF.RSPLEX01.HSM.CAT1	HSM100	2	2	User	n/a	n/a	06/08/07 09:44:29
USERCAT.VZ3IM1							
CATALOG.SYSST							
CATALOG.RSRTE					2007-06-07	16:26:28	06/08/07 09:44:29
USERCAT.VZ3W					n/a	n/a	06/08/07 09:44:29
USERCAT.VZ3CI					n/a	n/a	06/08/07 09:44:29
VCP1.VOLCAT.VG					n/a	n/a	06/08/07 09:44:29
CAM11.USER.CA					n/a	n/a	06/08/07 09:44:29
CATALOG.MVSIC					n/a	n/a	06/08/07 09:44:29
CATALOG.MAINST					n/a	n/a	06/08/07 09:44:29
CATALOG.RSPLE					n/a	n/a	06/08/07 09:44:29
CATALOG.RSPLE					n/a	n/a	06/08/07 09:44:29
CATALOG.RSPLE					n/a	n/a	06/08/07 09:44:29
CATALOG.RSPLE					n/a	n/a	06/08/07 09:44:29

Worst 10 Catalogs by Aliases

Catalog Name	Remaining Aliases
ICF.RSPLEX01.TSO.CAT1	~3400
CATALOG.RSPLEX01.B81D.CAT1	~3200
USERCAT.VZ3CI1	~3100
CATALOG.RSPLEX01.B81D.CAT2	~3000
VCP1.VOLCAT.VGENERAL	~2900
CATALOG.MAINSTAR.C26785	~2800
USERCAT.VZ3IMS1	~2700
ICF.RSPLEX01.HFS.CAT1	~2600
CATALOG.RSPLEX01.TESTCAT	~2500
ICF.RSPLEX01.FTR.CAT	~2400

Top 10 Catalogs by Extents

Catalog Name	Extents
ICF.RSPLEX01.DB2.CAT1	56
CATALOG.RSPLEX01.USERCAT	30
ICF.RSPLEX01.TSO.CAT1	26
ICF.RSPLEX01.DEV.CAT1	12
ICF.RSPLEX01.FTR.CAT	11
CATALOG.RSPLEX01.OMGR.CAT1	10
ICF.RSPLEX01.HSM.CAT1	2
CATALOG.RSPLEX01.B81A.CAT1	~1
CATALOG.RSPLEX01.B71D.CAT2	~1
CATALOG.RSPLEX01.TESTCAT	~1

Hub Time: Fri, 06/08/2007 09:44 AM Server Available DataPower Configuration - tep-srv - RPENNY

ACM – Catalog Alias Info

Catalog Cache Performance - tep-srv - RPENNY

File Edit View Help

View: Physical

Report

Timestamp	Name	Alias Count	Average Length	Remaining Aliases
06/08/07 09:41:57	ICF.RSPLEX01.HSM.CAT1	5	6	3584
06/08/07 09:41:57	ICF.RSPLEX01.HFS.CAT1	0	0	2936
06/08/07 09:41:57	ICF.RSPLEX01.IMS.CAT1	3	3	5380
06/08/07 09:41:57	ICF.RSPLEX01.IMS.CAT2	1	5	4036
06/08/07 09:41:57	ICF.RSPLEX01.Q9X1.CAT	1	7	3229
06/08/07 09:41:57	ICF.RSPLEX01.Q9X2.CAT	1	4	4613
06/08/07 09:41:57	ICF.RSPLEX01.Q9Z1.CAT	1	7	3229
06/08/07 09:41:57	ICF.RSPLEX01.Q9Z2.CAT	3	4	4611
06/08/07 09:41:57	ICF.RSPLEX01.QBX1.CAT	1	7	3229
06/08/07 09:41:57	ICF.RSPLEX01.QBX2.CAT	1	4	4613
06/08/07 09:41:57	ICF.RSPLEX01.QBZ1.CAT	2	7	3228
06/08/07 09:41:57	ICF.RSPLEX01.QBZ2.CAT	3	4	4611
06/08/07 09:41:57	ICF.RSPLEX01.RSDemo.CAT1	1	6	3588
06/08/07 09:41:57	ICF.RSPLEX01.SHARED.CAT1	6	5	4031
06/08/07 09:41:57	ICF.RSPLEX01.TSO.CAT1	1142	7	2088
06/08/07 09:41:57	ICF.RSPLEX01.TAPE.CAT1	2	5	4035
06/08/07 09:41:57	ICF.RSPLEX01.VCR1.CAT	1	4	4613
06/08/07 09:41:57	ICF.RSPLEX01.VCR2.CAT	1	4	4613
06/08/07 09:41:57	ICF.RSPLEX01.D9X1.CAT	1	7	3229
06/08/07 09:41:57	ICF.RSPLEX01.D9X2.CAT	1	4	4613
06/08/07 09:41:57	ICF.RSPLEX01.D9Z1.CAT	1	7	3229

Worst 10 Catalogs by Aliases

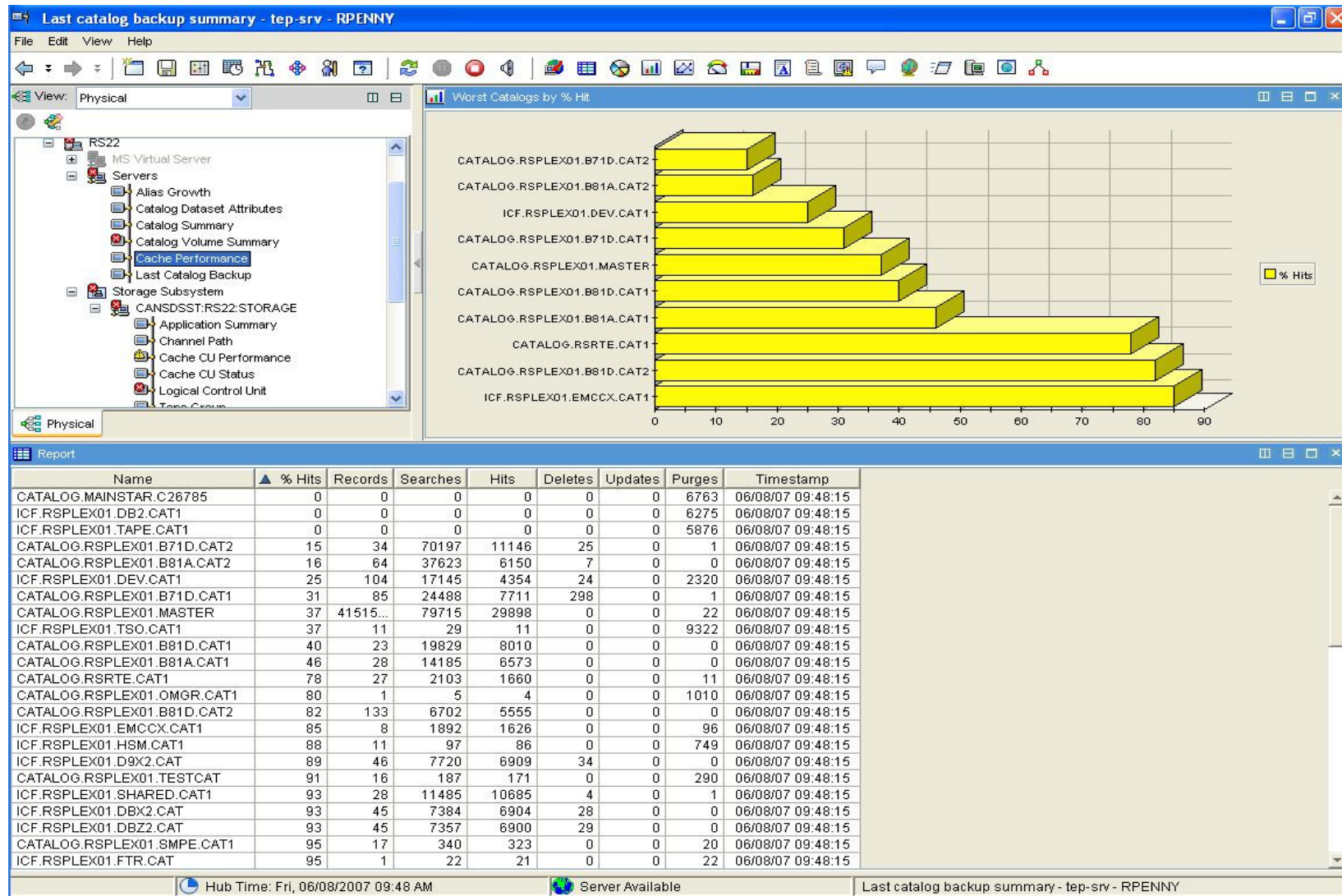
Catalog Name	Remaining Aliases (Approx.)
ICF.RSPLEX01.TSO.CAT1	3500
CATALOG.RSPLEX01.B81D.CAT1	3000
USERCAT.VZ3CIC1	2800
CATALOG.RSPLEX01.B81D.CAT2	2500
VCP1.VOLCAT.VGENERAL	2400
CATALOG.MAINSTAR.C26785	2300
USERCAT.VZ3IMS1	2200
ICF.RSPLEX01.HFS.CAT1	2100
CATALOG.RSPLEX01.TESTCAT	2000
ICF.RSPLEX01.FTR.CAT	1900

Best 10 Catalogs by Alias Space

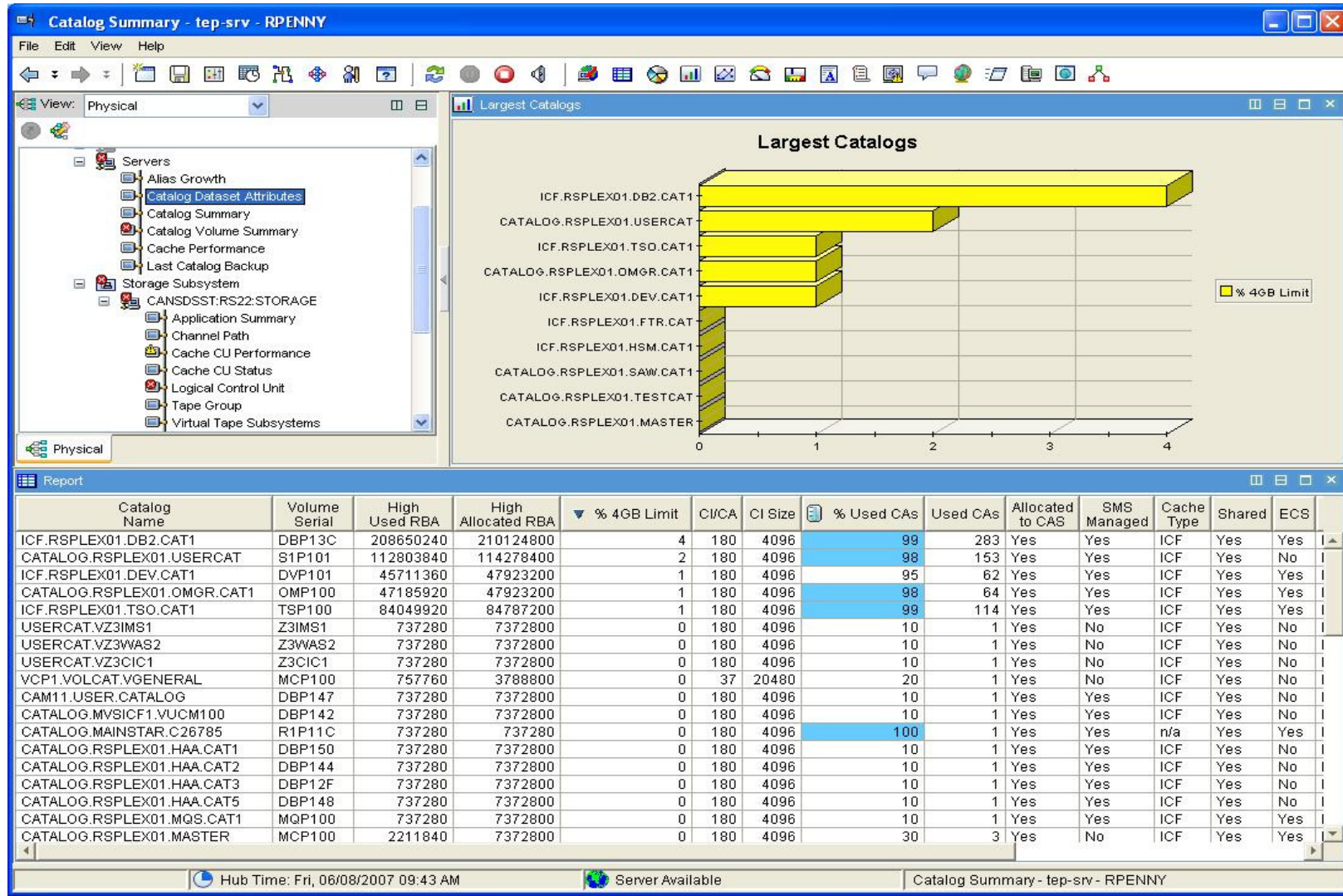
Catalog Name	Alias Space (Approx.)
CATALOG.SYSTEM.USERCAT	4800
ICF.RSPLEX01.IMS.CAT1	4500
ICF.RSPLEX01.QBX2.CAT	4200
CATALOG.MVSICF1.VUCM100	4000
CAM11.USER.CATALOG	3800
ICF.RSPLEX01.Q9X2.CAT	3500
ICF.RSPLEX01.DBX2.CAT	3200
ICF.RSPLEX01.VCR2.CAT	3000
CATALOG.RSPLEX01.B81A.CAT2	2800
ICF.RSPLEX01.VCR1.CAT	2500

Hub Time: Fri, 06/08/2007 09:41 AM Server Available Catalog Cache Performance - tep-srv - RPENNY

ACM – Catalog Activity



ACM – Catalog Size



ACM – Catalog Volume FreeSpace

The screenshot displays the 'Catalog Alias Growth - tep-srv - RPENNY' application. The interface includes a tree view on the left, a bar chart at the top right, a data table at the bottom left, and a situation event console at the bottom right.

Bar Chart Data:

Volume Name	Volume % Full
MQP100	99
SWP108	91
R3P100	90
HFP100	89
Z3WAS2	88
S1P107	88
DBP142	87
DBP150	87
DBP13C	87
S1P100	87

Table Data:

Volume Serial	Free	Allocated	Device Capacity	Largest Free Extent	Fragmentation Index	Volume % Full
MQP100	228	49842	50070	75	353	99
SWP108	1404	15294	16698	405	425	91
R3P100				378	514	90
HFP100						89
Z3WAS2						88
S1P107						88
DBP150						87
DBP142						87
DBP13C						87
S1P100				475	539	87
S1P106				405	482	87
S1P101				639	486	86
DBP144				660	560	85
R1P11C				404	559	84
S1P102				1248	390	83
TSP100				2640	396	81
DBP148				2865	448	81
DBP147				3405	426	81
DVP101				4633	279	77
DBP12F	11854	38231	50085	1875	375	76
DBR704	371	1129	1500	195	147	75

Situation Event Console:

Severity	Status	Owner	Situation Name	Display Item	Source
Critical	Open		KRN_BCS_Volume_Full_Warning	MQP100	rs22.rocketsoft
Critical	Open		KRN_BCS_Volume_Full_Warning	SWP108	rs22.rocketsoft

ACM – Catalog Backups

The screenshot shows the 'Catalog Dataset Attributes - tep-srv - RPENNY' application. The left pane shows a tree view with 'Last Catalog Backup' selected under 'Storage Subsystem'. The main pane displays a 'Bad Catalog Backups' table with the following columns: Backup Return Code, Backup Name, Backup Volser, Catalog Name, Diagnose Return Code, End Date Local, End Date UTC, End Time Local, End Time UTC, Examine Return Code, Start Date Local, and Start Date UTC. The table is currently empty.

Below the main pane is a 'Report' table with the following columns: Catalog Name, Backup Name, Backup Volser, Backup Return Code, Diagnose Return Code, Examine Return Code, Verify Return Code, Start Date Local, Start Time Local, Start Date UTC, Start Time UTC, and End Date Local. The table contains one row of data:

Catalog Name	Backup Name	Backup Volser	Backup Return Code	Diagnose Return Code	Examine Return Code	Verify Return Code	Start Date Local	Start Time Local	Start Date UTC	Start Time UTC	End Date Local
CATALOG.RSRTE.CAT1	PDJSUN.CATALOG.BACKUP.DSN	TSP100	0	0	0	0	2007-06-07	16.26.28	2007-06-07	20.26.28	2007-06-07

The status bar at the bottom shows 'Hub Time: Fri, 06/08/2007 09:49 AM', 'Server Available', and 'Catalog Dataset Attributes - tep-srv - RPENNY'.

A New Look for zSeries Tools

Tivoli Advanced Audit for DFSMSHsm

AAH – Agent Status Summary

The screenshot displays the Tivoli Enterprise Portal interface. On the left, a navigation tree shows the hierarchy: Enterprise > z/OS Systems > SP13 > S3ACC14 : SP13.AA > Agent Status Summary. The main area contains four summary tables for error IDs exceeding message limits:

- BCDS Error IDs Exceeding Message Limit**: Table with columns Error ID, Error Count, Record Count, and Error Message.
- MCDS Error IDs Exceeding Message Limit**: Table with columns Error ID, Error Count, Record Count, and Error Message.
- OCDS Error IDs Exceeding Message Limit**: Table with columns Error ID, Error Count, Record Count, and Error Message.
- HSM Tape Error IDs Exceeding Message Limit**: Table with columns Error ID, Error Count, Record Count, and Error Message.

At the bottom left, the 'Agent Object Status' table is visible:

Object Status	Query Name	
ACTIVE	Migration_Control_Dataset_Error_Summary	Mi
ACTIVE	Backup_Control_Dataset_Error_Summary	Ba
ACTIVE	Offline_Control_Dataset_Error_Summary	Of
ACTIVE	HSM_Tape_Error_Summary	HE
ACTIVE	Agent_Error_Messages	Ag
ACTIVE	MCDS_Error_Group1	MC
ACTIVE	MCDS_Error_Group2	MC
ACTIVE	MCDS_Error_Group3	MC
ACTIVE	MCDS_Error_Group4	MC
ACTIVE	MCDS_Error_Group5	MC
ACTIVE	MCDS_Error_Group6	MC
ACTIVE	MCDS_Error_Group7	MC

The status bar at the bottom shows: Hub Time: Mon, 10/15/2007 04:15 PM, Server Available, Agent Status Summary - 9.52.104.198 - SYSADMIN *ADMIN MODE*, and Applet CMWApplet started.

AAH – BCDS Summary

Welcome SYSADMIN
Tivoli Enterprise Portal Log out

File Edit View Help

View: Physical

- Enterprise
 - z/OS Systems
 - SP13
 - Allocation Optimizer
 - Catalog Management
 - DFSMSshm Audit
 - S3ACC14 :SP13:AA
 - Agent Status Summary
 - Backup Control Dataset Error Summary**
 - Migration Control Dataset Error Summary
 - Offline Control Dataset Error Summary
 - HSM Tape Error Summary
 - Storage Subsystem
 - SYS

Error ID	Error Count	Record Count	Error Message	Timestamp
2101W	0	0	MCB IS CONTAMINATED	10/15/07 16:16:07
2102W	0	0	MCB HAS DUPLICATE MCC ENTRY	10/15/07 16:16:07
2103C	0	0	MCB ENTRY IS MISSING THE MCC ENTRY	10/15/07 16:16:07
2104C	42	42	MCC BKUP TO LEVEL 1 HAS NO VTOC ENTRY	10/15/07 16:16:07
2105W	0	0	DUPLICATE BACK-UP VOLUMES FOUND	10/15/07 16:16:07
2106C	0	0	MCC IS ON VOLUME WHICH HAS NO MCT ENTRY	10/15/07 16:16:07
2106V	0	0	SUMMARY OF VOLUMES MISSING MCT ENTRY	10/15/07 16:16:07
2107W	0	0	MCC TAPE VOLUME HAS NO TTOC ENTRY	10/15/07 16:16:07
2107V	0	0	SUMMARY OF VOLUMES MISSING TTOC ENTRY	10/15/07 16:16:07
2109W	0	0	MCC ALIAS IS NOT ON TTOC	10/15/07 16:16:07
2109V	0	0	SUMMARY OF VOLUMES MCC ALIAS MISSING TTOC ENTRY	10/15/07 16:16:07
2111W	0	0	MCC ENTRY IS MISSING MCB ENTRY	10/15/07 16:16:07
2113I	0	0	BACK-UP TTOC VOLUME IS EMPTY	10/15/07 16:16:07
2114W	0	0	BACKUP NAME EXISTS ON VTOC, MCC IS MISSING	10/15/07 16:16:07
2115W	0	0	VTOC BACKUP NAME HAS VTOC ERROR	10/15/07 16:16:07
2116W	1	1	MCB TRUENAME IS MISMATCHED WITH MCC ENTRY	10/15/07 16:16:07
2117W	0	0	MCC ENTRY IS OWNED BY DIFFERENT MCB	10/15/07 16:16:07
1124W	0	0	VALID BLOCK COUNT IN TTOC DOES NOT AGREE	10/15/07 16:16:07
1125W	0	0	TTOC ENTRY MARKED INVALID, MCD/MCC EXISTS	10/15/07 16:16:07
1126I	0	0	SUMMARY OF TTOC VOLUMES WITH INVALID DSNS	10/15/07 16:16:07

BCDS Error Summary

Error ID	Error Count
2104C	42
2116W	1

Physical

Hub Time: Mon, 10/15/2007 04:16 PM Server Available Backup Control Dataset Error Summary - 9.52.104.198 - SYSADMIN *ADMIN MODE*

AAH – MCDS Summary

Welcome SYSADMIN
Tivoli Enterprise Portal Log out

File Edit View Help

View: Physical

- Enterprise
 - z/OS Systems
 - SP13
 - Allocation Optimizer
 - Catalog Management
 - DFSMShsm Audit
 - S3ACC14:SP13:AA
 - Agent Status Summary
 - Backup Control Dataset Error Summary
 - Migration Control Dataset Error Summary**
 - Offline Control Dataset Error Summary
 - HSM Tape Error Summary
 - Storage Subsystem
 - SYS

Error ID	Error Count	Record Count	Error Message	Timestamp
11D1C	21	21	MCD ENTRY IS NOT CATALOGED	10/15/07 16:16:21
11V1C	27	27	MCO VSAM COMPONENT IS NOT CATALOGED	10/15/07 16:16:21
11D2C	9	9	MCD ENTRY IS CATALOGED ON DIFFERENT VOLUME	10/15/07 16:16:21
11V2C	0	0	MCO VSAM COMPONENT ON DIFFERENT VOLUME	10/15/07 16:16:21
1103W	0	0	MCD ENTRY IS MISSING THE MCA ENTRY	10/15/07 16:16:21
1104C	9	9	MCD LEVEL 1 ENTRY HAS NO VTOC ENTRY ON L1 VOLUME	10/15/07 16:16:21
1105W	1	1	MCD VSAM BASE NAME IS MISSING IN MCO	10/15/07 16:16:21
1106C	0	0	MCD IS ON VOLUME WHICH HAS NO MCV ENTRY	10/15/07 16:16:21
1106V	0	0	SUMMARY OF VOLUMES HAVING NO MCV ENTRY	10/15/07 16:16:21
1107W	439	439	MCD LEVEL 2 IS ON VOLUME WHICH HAS NO TTOC ENTRY	10/15/07 16:16:21
1107V	4	4	SUMMARY OF VOLUMES MISSING IN TTOC	10/15/07 16:16:21
1108W	1	1	MCA ENTRY IS MISSING MCO VSAM COMPONENT ENTRY	10/15/07 16:16:21
1109W	0	0	MCD ALIAS IS NOT ON TTOC	10/15/07 16:16:21
1109V	0	0	SUMMARY OF VOLUMES WHERE ALIAS IS NOT IN TTOC	10/15/07 16:16:21
1110W	0	0	MCD HAS DUPLICATE MCA ENTRY	10/15/07 16:16:21
1111W	231	231	MCA ENTRY IS MISSING MCD ENTRY	10/15/07 16:16:21
1112W	0	0	MCO VSAM BASE NAME IS MISSING IN MCD	10/15/07 16:16:21
1113W	0	0	MCO VSAM COMPONENT NAME IS MISSING IN MCA	10/15/07 16:16:21
1114W	5	5	ALIAS NAME EXISTS ON VTOC, MCA IS MISSING	10/15/07 16:16:21
1115W	0	0	VTOC ALIAS NAME HAS VTOC ERROR	10/15/07 16:16:21
1116C	2	2	CATALOG ENTRY HAS NO MCD/MCO ENTRY	10/15/07 16:16:21
1117C	7	7	CATALOG ENTRY IS NOT CONNECTED TO MASTER CAT	10/15/07 16:16:21
1118C	1	1	MIGRATED DATA SET IS MISSING IN SDSP CLUSTER	10/15/07 16:16:21
1119W	43	43	ENTRY IN SDSP DATA SET IS MISSING IN MCDS	10/15/07 16:16:21
1120I	0	0	TTOC VOLUME IS EMPTY	10/15/07 16:16:21

MCDS Error Summary

Error ID	Error Count
1123W	~50
1118C	~10
1116C	~2
1111W	231
1107V	4
1105W	1
11D2C	9
11D1C	21
1107W	439

Hub Time: Mon, 10/15/2007 04:16 PM Server Available Migration Control Dataset Error Summary - 9.52.104.198 - SYSADMIN *ADMIN MODE*

AAH – OCDS Summary

Welcome SYSADMIN
Tivoli Enterprise Portal
 File Edit View Help

View: Physical

- Enterprise
 - z/OS Systems
 - SP13
 - Allocation Optimizer
 - Catalog Management
 - DFSMSHsm Audit
 - S3ACC14 :SP13:AA
 - Agent Status Summary
 - Backup Control Dataset Error Summary
 - Migration Control Dataset Error Summary
 - Offline Control Dataset Error Summary**
 - HSM Tape Error Summary
 - Storage Subsystem
 - SYS

OCDS Error Summary Report

Error ID	Error Count	Record Count	Error Message	Timestamp
4001W	2	2	PREVIOUS VOLUME NOT FOUND IN OCDS	10/15/07 16:16:31
4002W	2	2	SUCCESSOR VOLUME NOT FOUND IN OCDS	10/15/07 16:16:31
4003W	21	21	PREVIOUS VOLUME POINTER IS INCORRECT	10/15/07 16:16:31
4004W	22	22	SUCCESSOR VOLUME POINTER IS INCORRECT	10/15/07 16:16:31
4005C	0	0	TAPE HAS FAILED CREATE STATUS	10/15/07 16:16:31
4007C	1	1	TTOC RECORD HAS BROKEN SEQUENCE SET	10/15/07 16:16:31
4007V	1	1	VOLUME CONTAINS BROKEN SEQUENCE SET/SETS	10/15/07 16:16:31
4008C	1	1	TTOC EXTENTION RECORDS ARE LESS THAN EXPECTED	10/15/07 16:16:31
4009C	0	0	TTOC EXTENTION RECORDS ARE MORE THAN EXPECTED	10/15/07 16:16:31
4010W	2	2	16K BLOCK COUNT DOES NOT MATCH COMPUTED BLKCNT	10/15/07 16:16:31
4011W	1	1	TAPE HAS FAILED RECYCLE	10/15/07 16:16:31
4012C	36	36	TAPE IS NOT FULL AND WILL NOT BE SELECTED FOR RECY...	10/15/07 16:16:31
4013I	12	12	TAPE IS ELIGIBLE FOR RECYCLE	10/15/07 16:16:31

OCDS Error Summary

Hub Time: Mon, 10/15/2007 04:16 PM | Server Available | Offline Control Dataset Error Summary - 9.52.104.198 - SYSADMIN *ADMIN MODE*

AAH – Tape Error Summary

Welcome SYSADMIN
Tivoli Enterprise Portal Log out

File Edit View Help

View: Physical

- Enterprise
 - z/OS Systems
 - SP13
 - Allocation Optimizer
 - Catalog Management
 - DFSMSshm Audit
 - S3ACC14 :SP13:AA
 - Agent Status Summary
 - Backup Control Dataset Error Summary
 - Migration Control Dataset Error Summary
 - Offline Control Dataset Error Summary
 - HSM Tape Error Summary**
 - Storage Subsystem
 - SYS

Error ID	Error Count	Record Count	Error Message	Timestamp
3101W	0	0	TAPE IS IN MCV/MCT, NOT IN TTOC	10/15/07 16:16:43
3102C	108	108	TAPE IS IN TTOC, NOT IN MCV/MCT	10/15/07 16:16:43
3103C	0	0	TAPE IS NOT IN TTOC OR MCV/MCT BUT HAS ENTRIES	10/15/07 16:16:43
3104W	0	0	TAPE IS IN TTOC & MCV/MCT, NOT IN RMM	10/15/07 16:16:43
3110W	0	0	TAPE IS PERMANENT IN RMM, NOT IN TTOC	10/15/07 16:16:43
3111W	1	1	TAPE IS IN RMM, VALID IN HSM, HAS NO ENTRIES	10/15/07 16:16:43
3112W	0	0	TAPE IS VALID IN HSM BUT EXPIRED IN RMM	10/15/07 16:16:43
3114I	13	13	TAPE IS IN RMM SCRATCH STATUS	10/15/07 16:16:43

Error ID	Error Count
3114I	13
3111W	1
3102C	108

Physical

Hub Time: Mon, 10/15/2007 04:16 PM Server Available HSM Tape Error Summary - 9.52.104.198 - SYSADMIN *ADMIN MODE*

A New Look for zSeries Tools

Tivoli Advanced Reporting for DFSMSHsm

ARH - BCDS Dataset Details

BCDS Details - tep-qa1 - SYSADMIN

View: Physical

Data Sets with Tracks Backed Up > 20

Report

Timestamp	Data Set Name	Tracks Backup	Version Number	Backup Volume	Source Volume	Backup Timestamp	Alias
01/08/08 11:41:02	MFAMIG2.A1.DEVTYPE.NSMS2VOL.FILE	1	1	JACK...	QANSMS	03/13/07 11:02:08	HSM.BACK.T000211.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.A1.USEDPCT.TEST1.SEQ1	10	1	JACK...	QASMS5	03/13/07 11:03:08	HSM.BACK.T010311.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.A1.USEDPCT.TEST1.SEQ3	3	1	JACK...	QASMS1	03/13/07 11:03:08	HSM.BACK.T020311.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.DSN.TEST0088.VSAM	2	1	JACK...	QASMS3	03/13/07 11:04:08	HSM.BACK.T030411.MFAMIG2.DSN.J7072
01/08/08 11:41:02	MFAMIG2.A1.DSN.TEST6.DAU.FILE	1	1	JACK...	QASMS2	03/13/07 11:02:08	HSM.BACK.T040211.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.DSN.TEST0089.VSAM	2	1	JACK...	QASMS4	03/13/07 11:04:08	HSM.BACK.T040411.MFAMIG2.DSN.J7072
01/08/08 11:41:02	MFAMIG2.A1.DSORG.TEST4.PS.FILE	15	1	JACK...	QASMS5	03/13/07 11:02:08	HSM.BACK.T050211.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.A1.DSORG.TEST5.NONSMS.FILE	15	1	JACK...	QANSMS	03/13/07 11:02:08	HSM.BACK.T060211.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.DSN.TEST0003.VSAM	2	1	JACK...	QASMS4	03/13/07 11:03:08	HSM.BACK.T070311.MFAMIG2.DSN.J7072
01/08/08 11:41:02	MFAMIG2.DSN.TEST0094.VSAM	2	1	JACK...	QASMS6	03/13/07 11:04:08	HSM.BACK.T080411.MFAMIG2.DSN.J7072
01/08/08 11:41:02	MFAMIG2.A1.DSTYPE.TEST6.SEQ12	1	1	JACK...	QASMS6	03/13/07 11:02:08	HSM.BACK.T090211.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.DSN.TEST0008.VSAM	2	1	JACK...	QASMS3	03/13/07 11:03:18	HSM.BACK.T100311.MFAMIG2.DSN.J7072
01/08/08 11:41:02	MFAMIG2.DSN.TEST0098.VSAM	2	1	JACK...	QASMS1	03/13/07 11:04:18	HSM.BACK.T110411.MFAMIG2.DSN.J7072
01/08/08 11:41:02	MFAMIG2.A1.EXPDT.TEST1.NOEXPDT	1	1	JACK...	QASMS2	03/13/07 11:02:18	HSM.BACK.T120211.MFAMIG2.A1.J7072
01/08/08 11:41:02	MFAMIG2.A1.GDSSTATU.EMPTY.NOSCR2	1	1	JACK...	QASMS5	03/13/07 11:02:18	HSM.BACK.T140211.MFAMIG2.A1.J7072

Hub Time: Tue, 01/08/2008 02:41 PM | Server Available | BCDS Details - tep-qa1 - SYSADMIN

Windows Taskbar: Start, Windows Li..., Inbox - Mic..., Product M..., Tivoli Adv..., Ron Ratclif..., BCDS De..., 100%, 2:41 PM

ARH - Migrate NE to ZERO

Log Migration Detail - tep-qa1 - SYSADMIN

File Edit View Help

View: Physical

SMSshm Audit
 SMSshm Reporting
 CANSRH:QA:AR
 Detail information about DFSMSshm daily space management procedure.
 CDS SMS Class Summary
 Detail of DFSMSshm actions for RECALL related actions.
 Detail of DFSMSshm actions for MIGRATE related actions.
 Summary of all DFSMSshm actions in the interval summarized by action.
 MCDS Details
 The last recover job for a catalog had a return code = 50
 The last recover job for a catalog had a return code = 59
 Detail of each DFSMSshm action that resulted in a reduction in the amount of space used.
 Summary of DFSMSshm daily space management processing.
 The last recall job for a catalog had a return code = 99
 The last recover job for a catalog had a return code = 99
 Storage Subsystem
 CANSDSSM:QA:STORAGE
 Ks3:KS31584
 More...

Physical

Report Page: 1 of 10

Timestamp	Action	Return Code	Data Set Name
01/08/08 11:41:56	MIGRATE	99	CATQ.CAT0641.SMP.TEST.LOAD
01/08/08 11:41:56	MIGRATE	99	CATQ.CAT0641.SMP.TEST.LOAD
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	58	SMPE.OMEGXE.GLOBAL.CSI.DAT
01/08/08 11:41:56	MIGRATE	58	SMPE.OMEGXE.DZONE.CSI.DAT/
01/08/08 11:41:56	MIGRATE	58	SMPE.OMEGXE.TZONE.CSI.DATA
01/08/08 11:41:56	MIGRATE	58	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R
01/08/08 11:41:56	MIGRATE	70	VENDOR.OMEGXE.V1R4M0.SE.R

Data Sets with > 100 Tracks Migrated Page: 1 of 10

Migrations Using > 10 CPU Seconds Page: 1 of 10

Hub Time: Tue, 01/08/2008 02:42 PM Server Available Log Migration Detail - tep-qa1 - SYSADMIN

Start Windows Li... Inbox - Mic... Product M... Tivoli Adv... Ron Ratclif... Log Migr... 100% 2:42 PM

ARH – Return Code Summary

ARH TEP Demo - Microsoft Internet Explorer

Participant List (23)

My Status: Speaking: Guest User (4545)

Helen, Jeremy Schilke, Guest User (2120), Guest User (3942), Guest User (4350), Guest User (4525), Guest User (4545), Guest User (7603427528), Guest User (7706151245), Guest User (9192241359), Guest User (9192241809), Guest User (9193191800)

Share - Steve Clar

Return Code Summary - tep-blank - STEVEC

Timestamp	Return Code	Count	Message	Action
11/29/07 10:02:23	0	3	RECALL:RECOVERY OK	RDELETE
11/29/07 10:02:23	0	330	BACKUP OK	BACK-UP
11/29/07 10:02:23	68	450	BKUP FAILED BECAUSE OF DFDSS ERR	BACK-UP
11/29/07 10:02:23	70	119	SMS DS ERROR	BACK-UP
11/29/07 10:02:23	56	14	VSAM BACKUP ERROR	BACK-UP
11/29/07 10:02:23	19	24	DATA SET IN USE	BACK-UP
11/29/07 10:02:23	87	7	DISCREPANCY FOUND WITH VTOC ENTRY	BACK-UP
11/29/07 10:02:23	0	288	MIGRATION OK	DELETED
11/29/07 10:02:23	53	3	EXPIRE ERROR, NEEDS BKUP FIRST	EXPIRED
11/29/07 10:02:23	0	43	MIGRATION OK	EXPIRED
11/29/07 10:02:23	99	9	UNSUPPORTED DS	BACK-UP
11/29/07 10:02:23	0	57	MIGRATION OK	MIGIT02
11/29/07 10:02:23	3	1	FMT 1 DSCB OBTAIN ERROR	BACK-UP
11/29/07 10:02:23	16	1	PRIMARY COPY READ ERROR	BACK-UP
11/29/07 10:02:23	0	3	RECALL:RECOVERY OK	RECALL

Count of Messages with Return Code > 0

Hub Time: Thu, 11/29/2007 09:10 AM

Server Available

Return Code Summary - tep-blank - STEVEC

100%

10:10 AM

Cisco Unified MeetingPlace Express

Adobe Technology

start | Infoprint M... | Review Ad... | 26:07:01 ... | EverNote ... | Helen Carb... | 2 Interne... | 2 AIM | Freelance ... | 99% | 10:08 AM Thursday 11/29/2007

ARH - Situations

The screenshot displays the ARH TEP Demo application within a Microsoft Internet Explorer browser window. The interface is divided into several panes:

- Participant List (23):** Shows a list of participants including Helen, Jeremy Schilke, and several Guest Users.
- My Status:** Indicates the user is speaking.
- Chat:** A text input field for communication.
- Note:** A text input field for notes.
- Situation Editor:** The main configuration area, which includes:
 - Tree View:** A list of situations such as 'DFSMSshm Audit', 'KRH_Backup_Held', and 'KRH_Recall_Recover_Error'.
 - Description:** A text box containing 'The last recall job for a catalog had a return code = 24'.
 - Formula:** A table with columns 'Action' and 'Return Code'. The first row contains '== 'RECALL'' and '== 24'.
 - Instructions:** Text explaining how to use the formula editor to add conditions and attributes.
 - Sampling interval:** A numeric input field set to '0 / 0 : 1 : 0'.
 - Run at startup:** A checked checkbox.

The bottom of the screen shows the Windows taskbar with the Start button, several open applications, and the system clock indicating 10:05 AM on 11/29/2007.

धन्यवाद

Hind Hindi

多謝

Traditional Chinese

ขอบคุณ

Thai

Спасибо

Russian

Gracias

Spanish

Thank You

English

شكراً

Arabic

Obrigado

Brazilian Portuguese

Grazie

Italian

多谢

Simplified Chinese

Danke

German

Merci

French

நன்றி

Tami Tamil

ありがとうございました

Japanese

감사합니다

Korean

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