



Tivoli software

Improve efficiency, reduce costs, and prevent outages with better z/OS storage management



Highlights

- ***Easily monitor and manage the performance and availability of your storage subsystems***
- ***Automated processes and automatic operations ensure the health, integrity, compliance and recoverability of your storage environment***
- ***Simplify daily storage management with easy-to-use, comprehensive storage administration***
- ***Leverage expert knowledge and sophisticated navigation capabilities to speed problem determination, reduce reliance on System z gurus, and reduce barriers between System z and distributed storage administration with a centralized portal***
- ***Optimize system and human resources with reporting, analytics, policy implementation and automated administration***

The difficulties of managing today's storage environments are more challenging than ever. The proliferation of data and increasingly stringent requirements for data storage serve to increase stress on storage administration staff. In the IBM z/OS® environment—renowned for its ability to manage secure access for thousands of users and petabytes of business-critical data—efficient storage management is critical. z/OS storage administrators need a better way to manage storage resources to meet today's challenges.

The IBM Tivoli® storage management solution for z/OS addresses this need by helping storage administrators better manage the performance and availability of the storage environment.

In addition, the solution helps meet service-level agreements (SLAs) as well as internal and external regulatory requirements, and helps reduce operational risks in the storage infrastructure by detecting potential problems before they occur.

The Tivoli storage management solution for z/OS offers a robust portfolio of software, enabling you to automate tasks such as storage administration, storage allocation, Integrated Catalog Facility (ICF) catalog management, IBM Data Facility Storage Management Subsystem hierarchical storage management (DFSMSHsm), tape device sharing, tape data stacking and even full-blown disaster recovery. In addition, these capabilities are accessible from a single, easy-to-use graphical user interface (GUI).

The Tivoli storage management solution for z/OS offers the following benefits:

Ensure efficient resource utilization

With challenging economic conditions, organizations need to make sure all aspects of their IT operations are as efficient as possible, and storage is no exception. You need visibility and the ability to optimize storage at the volume, disk and even data set levels.

Hidden issues such as failed DFSMSHsm migrations or outdated data migration policies—too much or too little data kept in primary storage—can silently consume your system resources and budget. The Tivoli storage management solution for z/OS can help you better utilize central processing units (CPUs), direct access storage devices (DASD), tapes, hardware and media as well as shared hardware resources across IBM System z® and distributed environments.

Use resources efficiently

A storage administrator using Tivoli OMEGAMON XE for Storage on z/OS sees that an ICF catalog has exceeded a defined threshold for number of extents, then links seamlessly to Advanced Catalog Management and determines that a catalog reorganization would be beneficial. With a single mouse click, the administrator uses the take-action capability to reorganize the catalog while it remains open, and can increase the allotted space. Later, the administrator can check the MVS system console to verify that the action corrected the problem.

Regular audits of the DFSMSHsm environment are fast, consume few resources and can pinpoint problems that impede normal migrations, prevent backups from occurring, and can cause bloating and inefficiency in key control data sets. What-if analysis in the solution allows you to see the effects of actions before committing, removing the guesswork from managing your storage environment. In addition, the solution can help reduce the cost of offline storage by helping you increase efficiencies in sharing tape hardware and media across sysplexes.

Additional time, resource and money-saving features include:

- *At-a-glance dashboard visibility.*
- *Standard and custom reports.*
- *Tailored alerts.*
- *Automation of tasks and preplanned corrective actions.*

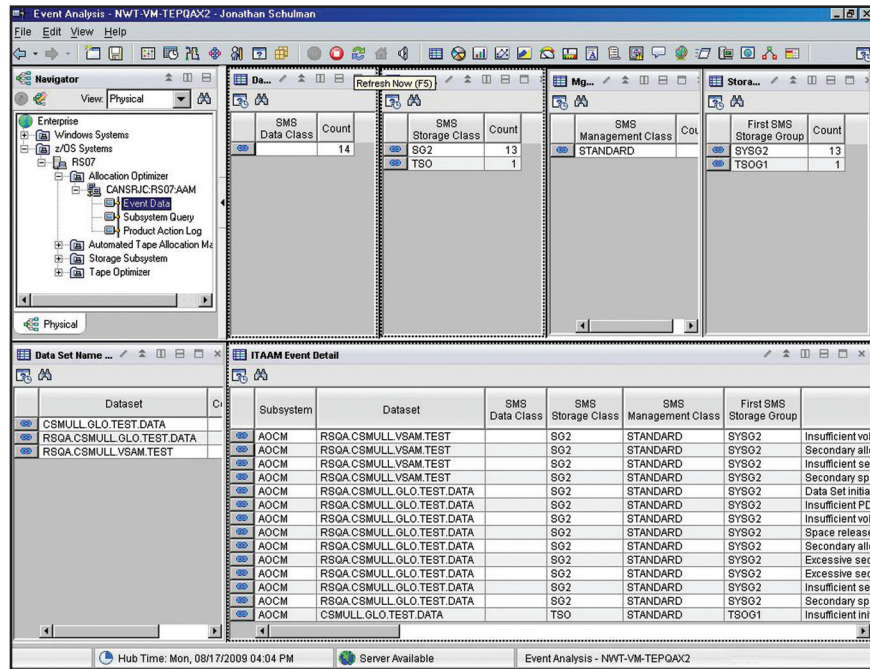
Automate storage allocation

Sophisticated allocation management features in the Tivoli storage management solution for z/OS allow you to tailor, set and execute your organization's storage allocation policies to optimize your environment. Use it to monitor the status of executing jobs, and when a

storage allocation-related (X37) abnormal end of task (abend) is about to occur, you can allocate storage in accordance with a preset policy to prevent job failure. Graphical views show problem patterns, which can highlight changes that need to be made to allocations. Performance and availability monitoring of both the z/OS operating system and the storage subsystem allow IT to make informed decisions about where storage should be placed for new or growing applications, and when data should be archived to tape, to decrease waste and improve accessibility.

Adapt quickly to change

Business tactics that evolve to respond to market conditions translate to a high rate of change in your workloads—and impact your storage infrastructure as well. The Tivoli storage management solution for z/OS supplies analytical information that helps ensure high availability and utilization of disk or tape storage resources for existing workloads during peak periods of change. Tools support you in handling merger and acquisition activity, data center consolidations and other key events without disruption. You can even merge and split ICF catalogs without taking applications offline.



The Tivoli Storage Management solution for z/OS captures expert knowledge in the Tivoli Enterprise Portal, reducing reliance on System Z storage gurus.

As applications change over time, the critical data sets they use may also change. The IBM Tivoli storage management solution can automatically react to changes ranging from hardware configurations to critical application data requirements, ensuring that your environment is automatically backed up, fully recoverable and performing well. In addition, data retention and virtualization management capabilities help address space requirements by providing insight into the impact of changes to the storage infrastructure, data retention policies and more.

Use expert insight to reduce reliance on system “gurus”

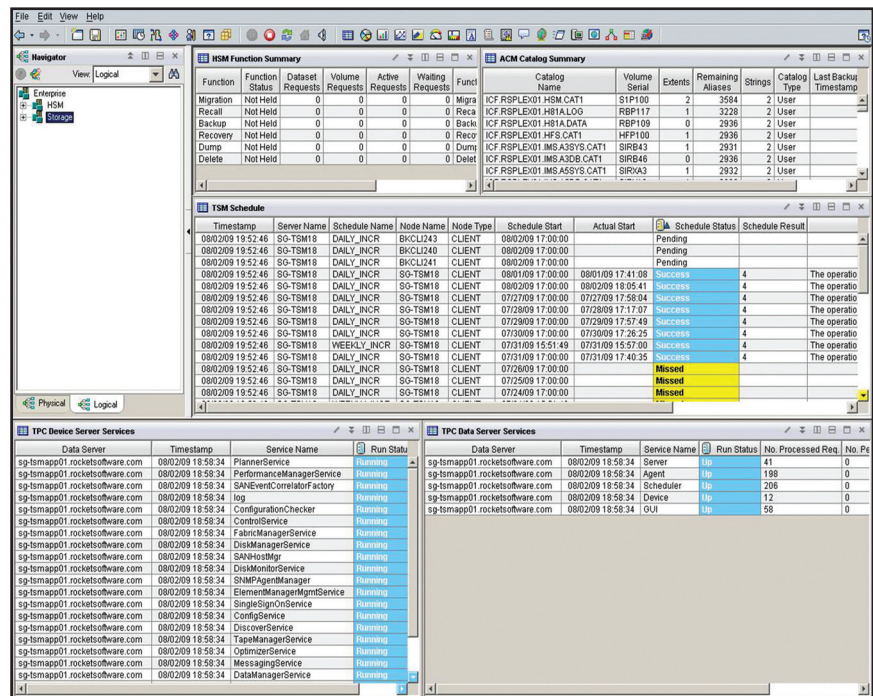
Organizations face significant challenges with both the amount and skill level of available human resources for managing their System z storage environments. Over the years, IT processes have evolved to depend on proprietary scripts, utilities and other custom-built tools. Problem resolution often depends on the memories of experts with many years of experience. The Tivoli storage management solution for z/OS overcomes this issue by automating

previously manual, high-skilled tasks and helps capture expert knowledge within the IBM Tivoli Enterprise Portal (TEP) interface without forcing you to rely on System z gurus. It provides at-a-glance monitoring and diagnostics, as well as automation of repetitive manual tasks in preplanned responses to common issues. Powerful filtering and reporting capabilities differentiate the unimportant events from the important ones that require attention. Consistent tools and interfaces speed learning for new users and make it easier to quickly adapt to new issues.

TEP delivers a single-pane-of-glass view for real-time updates and better collaboration, and enables your teams to view the storage environment at a glance, or to drill down and link seamlessly across products as needed to reduce problem resolution times from days to hours. The solution provides easy access to storage-related information across the IT organization, helping remove barriers and improve collaboration.

Minimize operational risks

Failure to detect and correct errors in DFSMSshm control data sets and ICF catalogs can have costly results when data is unrecoverable. The Tivoli storage management solution for z/OS provides fast, easy audits to detect all of



The IBM Tivoli Enterprise Portal can combine information from numerous sources creating leverage across both distributed and z/OS storage management solutions.

the errors in your DFSMSshm environment, enabling you to conduct regular audits and mitigating the risk of losing critical data. The audits also make it easy to correct DFSMSshm errors automatically. ICF catalog and tape catalog audits, backups, and regular maintenance can dramatically reduce the risks associated with costly catalog failures and potential associated data losses. The solution can even detect and correct for data stored on tape media that degrades over time, helping avoid corrupted or lost data and audit exposure.

Integrate with distributed storage environments

Because both z/OS and distributed platform storage solutions use TEP, information from both environments can be easily shared and integrated. Common tooling helps remove barriers between System z and distributed storage administrators, and TEP-enabled data helps you combine information from across the enterprise to build a comprehensive, enterprise-wide view of your storage infrastructure—to support resource management, risk mitigation, cost savings and compliance.

The solution

The Tivoli storage management solution for z/OS includes the following products:

IBM Tivoli OMEGAMON® XE for Storage on z/OS—Manages performance and availability of z/OS storage input/output subsystem, including channels, control units, DASD, data sets and tape devices for optimal usage. Provides storage administration function for daily usage.

IBM Tivoli Advanced Audit for DFSMSHsm and IBM Tivoli Advanced Reporting for DFSMSHsm—Provides comprehensive audits and repairs and ensures integrity of the DFSMSHsm environment. Quickly corrects DFSMSHsm errors. Easy-to-read, daily DFSMSHsm health reports on environment, maintenance cycles, ad hoc reporting and automated command generation help capture significant storage and CPU savings.

IBM Tivoli Advanced Catalog Management for z/OS—Protects a catalog's complex structural integrity, alerts for potential errors and reduces recovery time. Reduces application downtime by permitting catalog maintenance while open and allows "what-if"

simulation to preview effects of actions. Can be used for all virtual storage access method (VSAM) key sequenced data set (KSDS) clusters. Protects catalog environment integrity.

IBM Tivoli Advanced Backup and Recovery for z/OS—Identifies critical application data. Delivers reliable and accurate data backup and recovery. Identifies critical data that has not been backed up, and monitors backups. Features compliance and diagnostic reporting capabilities.

IBM Tivoli Advanced Allocation Management for z/OS—Provides comprehensive centralized storage allocation management with user-friendly rules-based definition. Proactive, automatic operation prevents x37 abends and related space issues, including extended NOTCAT2 function support, and extended support for VSAM data minimizes task failure and enhances productivity and data availability.

IBM Tivoli Tape Optimizer on z/OS—Flexible copying options for migrating a single data set or an entire library to speed copying processes, maximize resources, and facilitate compliance and disaster recovery.

IBM Tivoli Automated Tape Allocation Manager for z/OS—Addresses tape device availability, providing automatic, unattended sharing of tape resources across multiple images or sysplexes. Improves ROI by leveraging tape hardware and tape media investments.

IBM Tivoli OMEGAMON DE for z/OS—View information from a wide variety of tools in one location, from multiple TEP-enabled products. Integration capabilities provide better collaboration between storage management products and across IT staff.

For more information about any of these products, visit ibm.com/tivoli/storage

Related Solutions

IBM Tivoli OMEGAMON product family
IBM Tivoli Storage Manager
IBM Tivoli Storage Productivity Center



For more information

To learn more about how the IBM Tivoli storage management solution for z/OS can help you optimize your storage environment, contact your IBM representative or IBM Business Partner, or visit ibm.com/bpm

Additionally, IBM Global Financing can tailor financing solutions to your specific IT needs. For more information on great rates, flexible payment plans and loans, and asset buyback and disposal, visit: ibm.com/financing

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