

What is TSF?

TSF delivers the first Java-enabled enterprise Storage Resource Management (SRM) solution that simplifies the administration and management of distributed and mainframe storage resources across the entire enterprise, from a single point of control. TSF helps you plan more effectively, lower administration costs, and puts you in control of your storage environment. Its reliable, easy-to-use centralized administration improves storage utilization of your existing storage assets, automates repetitive tasks, and helps control future storage expenditures through accurate trending and forecasting of storage growth.

Platform and Hardware Independent

Independent of an operating system, file system and hardware storage vendor, TSF enables you to centrally manage storage in any combination of complex heterogeneous environments – including DAS, NAS, SAN and Mainframe-attached storage. TSF's unified solution maximizes the value of your storage network in all phases of storage management: assessment, monitoring, configuration, allocation, and planning and is totally hardware and platform independent.

Solution Highlights

Common Storage Management Console This easy to use interface provides Detail and Summary reporting, History and Trending capabilities as well as Saved User Views and print publishing facilities.

Scheduled data collection All collector jobs that gather data and place in databases or flat files may now be scheduled and run via a started task

Automation IF statements Process automation IF statements against data collected within the z/OS environment to determine whether further actions are deemed necessary

View and graph history data Capture history data in the TSF suite for views and graphs within the interface

Integrated storage reporting Report on the composition of each volume DAS, SAN, or NAS. Topology view allows the administrator to visually understand the physical makeup of the storage architecture

Audit Facilities Interrogate valid and non-valid entries in the storage subsystems to quickly detect invalid status and submit corrective action

Provides Action Capabilities Actions are provided for immediate execution from the interface giving the user control over batch or scripted actions against the selected objects.

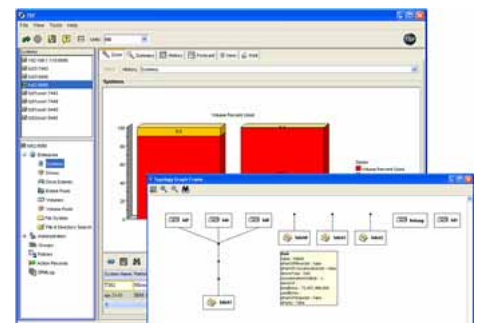
Logical Pooling Definitions View an application set of data that spans all media types (disk, tape, HSM) within the z/OS storage environment

Dynamic Groups Define logical groups of data based on how the organization report on business units can now dynamically reflect changes of the data usage patterns.

Apply policies against groups Ability to apply policies against groups including the new "dynamic groups" feature. For example, apply a policy to a group to email a warning when the group contains more than 2,000 files.

Supported Environments

- ▶ z/OS (all IBM supported versions)
- ▶ Microsoft Windows Server 2003 Standard Edition (32 bit) and Windows Server 2003 Enterprise Edition (32 bit)
- ▶ Microsoft Windows Server 2000 and Windows Advanced Server 2000
- ▶ SUN Microsystems Solaris 8, 9, and 10
- ▶ IBM AIX 5.3
- ▶ Red Hat Enterprise Linux 2, AS and ES
- ▶ Red Hat Enterprise Linux 3, AS and ES
- ▶ Red Hat Enterprise Linux 4, AS and ES



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TSF Topology Viewer Depicts Relationships Quickly

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Challenge

Keeping storage-related expenses to a minimum

Monitor your current utilization and track it over time in ways that are easy to customize to fit your organization. TSF helps you to identify future needs based on historical trends.

Removing repetitive data-gathering tasks

TSF is on duty 24X7 and has actionable scripts you need to find, migrate, archive, or delete aged data.

Taking action on the gathered data

Management by exception alerts you to storage hotspots without constant monitoring by IT staff.

Getting a central view of storage across platforms

TSF provides administrators with a centralized view of the storage landscape with text, graphic, and numeric summaries across multiple OS platforms and domains at every level, with drill-down capability from the enterprise down to the file.

Simplifying server or storage consolidation

TSF shows you graphically how your data consumes storage resources, giving you the visibility you need to control storage growth and provide necessary levels of service at a lower cost.

Solution

TeraCloud Storage Framework (TSF) provides one single interface for storage data allowing access to multi-platform storage metrics as well as multi-level media within the z/OS platform. Combined with this is greatly expanded automation capabilities on Z Series that allow "Collector Real-Time" automation to be performed on any storage data kept in the repository.

TSF wraps all media (Disk, Tape and HSM) into a product offering that includes reporting for Distributed systems (Windows, AIX, Solaris and Linux). The Java interface can be launched from either Windows or Unix platforms yet it can see into any of these worlds of storage using a common storage management console.

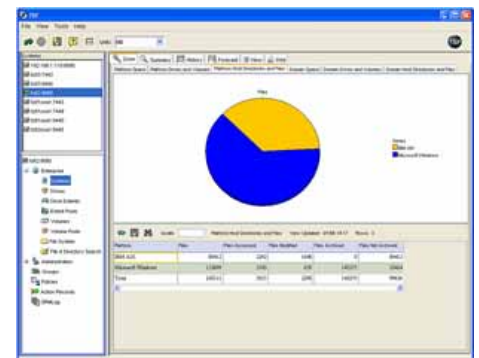
Our ProActivity template technology has been enabled on Distributed platforms so actions may be taken when viewing a problem through the interface. Distributed detail and Summary information are now accompanied with greatly expanded graphing capabilities that allow creation of graph sets that can be saved as a default or set aside for periodic access and use as needs dictate. All of this can be customized and printed with a unique object oriented print-engine that allows screen, printer, HTML or PDF style printing.

Automation on the z/OS platform allows any field of any record of data we collect (over 4,300) to be interrogated and automated on at the time the collection is performed thus keeping resources to a minimum while maximizing control on storage. A hit during an automation check allows any REXX routine to be fired providing optimal control to the storage administrator on how they want to perform a correction.

TSF runs as a storage subsystem within z/OS providing collector scheduling capabilities as well as handling automation duties, distributed agent requests and servicing requests for Pool/Volume/Controller statistics held in dataspace. TSF has Controller statistics information with drilldown to the volumes behind each controller. This information shows the cache hit ratios for each volume and provides information on the configuration of cache on each controller. Parallel Access Volume (PAV) information is also available as you view a specific tape volume serial number (VOLSER). This allows drilldown and depiction of the base address and the number of aliases for that address. Wrapped around every collected record is the ability to perform actions directly from the interface and query of historical information maintained for that record. The historical information, combined with the graphical user interface, allows linear depiction of growth.

Key Benefits

- ▶ Learning the interface for one OS platform has the effect of learning all supported platforms
- ▶ Data collectors can be run when the storage administrator determines it's prudent and has the complete flexibility in scheduling capabilities
- ▶ Customers using TSF have total control over the z/OS storage environment. Automation is instituted in a manner that significantly reduces resource consumption compared to other alternatives in the SRM market space.
- ▶ Customers now have a full encompassing view of an application set of data that spans all media types (disk, tape, hsm) within the z/OS storage environment
- ▶ Catalog and location status can now be determined allowing identification of dataset entries in the catalog that do not exist on the media specified in the catalog and vice versa
- ▶ History of any data captured in the TSF suite can now be viewed and graphed within the interfaces



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TSF System Detail, Zoom, and Summary