



Highlights

The IBM Tivoli® Storage Productivity Center is designed to:

- Help centralize the management of your storage infrastructure from a single interface using role-based administration and single sign-on
 - Provide a single management application with modular integrated components that are easy to install and provide common services for simple/consistent configuration and consistent operations across host, fabric and storage systems
 - Manage performance and connectivity from the host file system to the physical disk, including in-depth performance monitoring and analysis on SAN fabric performance
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IBM Tivoli Storage Productivity Center (TPC)

Simplify, automate and optimize storage infrastructure

IBM Tivoli Storage Productivity Center can help you manage the capacity utilization of storage systems, file systems and databases. It can help automate file-system capacity provisioning, perform device configuration and management of multiple devices from a single user interface. And it can tune and proactively manage the performance of storage devices on the Storage Area Network (SAN) and manage, monitor and control your SAN fabric.

The mission: Improve storage infrastructure management and time to value

As the need to store and retain data explodes, you must find better ways to control the cost of storage. Managing storage infrastructure has grown in complexity as businesses continue to acquire new storage infrastructures or a mix of multivendor storage assets via acquisitions or company mergers. You need to be able to identify, evaluate, control and predict the growth of data through its life cycle in order to meet storage service levels in accordance with IT Information Library® (ITIL®) and data retention requirements.

Both requirements—managing storage infrastructure and the data that resides there—are highly labor intensive. Storage infrastructure management tools such as IBM Tivoli Storage Productivity Center that are easy to deploy and use can help you reduce the complexity of managing your storage environments by centralizing, simplifying and automating storage tasks associated with storage systems, storage networks, replication services and capacity management.



IBM Tivoli Storage Productivity Center is designed to reduce total cost of ownership by:

- Reducing administration costs through centralized management of heterogeneous storage
- Significantly reducing planned downtime
- Reducing Backup/Restore costs
- Improving storage utilization—storage systems and storage infrastructure
- Simplifying overall IT operations

The solution: IBM Tivoli Storage Productivity Center

IBM Tivoli Storage Productivity Center is a feature-rich storage management software suite. The integrated suite provides a single user interface to monitor, report and manage storage capacity, storage networks, storage systems and replication services.

IBM Tivoli Storage Productivity Center family of products includes:

- IBM Tivoli Storage Productivity Center Basic Edition
- IBM Tivoli Storage Productivity Center for Data
- IBM Tivoli Storage Productivity Center for Disk
- IBM Tivoli Storage Productivity Center for Disk Midrange Edition
- IBM Tivoli Storage Productivity Center for Replication
- IBM Tivoli Storage Productivity Center Standard Edition

Tivoli Storage Productivity center provides a single point of control for you to manage every point of your storage network, between the hosts, through the fabric, to the physical disks in a multi-site storage infrastructure. Tivoli Storage Productivity Center provides both role-based administration and single sign-on capabilities. Additionally, the suite is designed to provide the foundation for storage service level



management by offering storage system and SAN performance and availability management. This includes connectivity reporting between file systems and physical disk as well as SAN and disk subsystem failure and audit logging.

IBM Tivoli Storage Productivity Center provides a central console and topology viewer for a number of storage infrastructure management tasks, including:

- Monitoring: Virtualizing the infrastructure and accessing health at a glance, and logs
- Planning: Anticipating problem areas and performance trends
- Configuration: Providing allocation, zoning and masking
- Reporting: Displaying capacity, utilization, performance and chargeback accounting
- Problem Determination: Providing aggregated status, drill down, identification of impacted resources, and recommendations to fix the problem
- Management: Providing simplification of advance copy services (replication) tasks on IBM storage devices



IBM Tivoli Storage Productivity Center Standard Edition combines components of the family within a single bundle at a reduced price offering:

- Tivoli Storage Productivity Center for Data
- Tivoli Storage Productivity Center for Disk
- Tivoli Storage Productivity Center Basic Edition

Managing heterogeneous storage environments

IBM Tivoli Storage Productivity Center provides an integrated storage infrastructure management suite that is capable of managing both heterogeneous storage and IBM System Storage® products. It is by design that IBM Tivoli Storage Productivity Center provides extraordinary device, capacity, availability and performance management features for IBM platforms as well as significant management capabilities for managing heterogeneous storage. Two key areas of focus are: Performance management of storage systems and storage

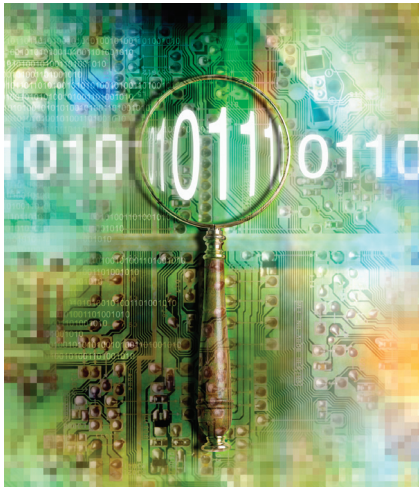
networking platforms and capacity and operational management of IBM and heterogeneous storage systems. TPC integration with other IBM solutions such as SERP brings business intelligence to the storage realm, allowing customers to gain insight into how their lines of business are using storage assets across the heterogeneous environments, improving time to value. IBM Tivoli Storage Productivity Center can help IT administrators to more efficiently manage large and complex heterogeneous storage environments by simplifying day-to-day operations, reducing management complexities, and improving system availability.

Better agent management helps simplify storage deployment and management in heterogeneous environments, providing the capability to collect asset and capacity data from the supported servers without deploying resident agents. Lightweight Storage Resource Agents can now be deployed easily and updated automatically without human intervention, greatly improving time-to-value. This improves the efficiency for discovering and reporting on mixed vendor storage (including third party). Additionally, in TPC V4.2 Storage Resource agents can be used in light and normal modes that allow for file level probes as well as detailed database scans, while leaving a smaller footprint on the servers, thus improving performance and time-to-value significantly for customers. Integration with Storage Enterprise Resource Planner (SERP) improves efficiency of discovering third party devices and their utilization. Also, IBM Tivoli Storage Productivity Center can help with faster problem determination and problem resolutions to reduce downtimes. Advanced disaster recovery solutions allow you to plan for replication as storage is provisioned ensuring data protection and business continuity.

IBM disk support includes operational control, asset and capacity management, and performance reporting of IBM XIV® Storage System, IBM System Storage Enterprise Storage Server® Models 800 and F20, IBM System Storage

DS8000®, DS5000 and the IBM System Storage SAN Volume Controller. IBM Tivoli Storage Productivity Center is also designed to support discovery, asset and capacity reporting for IBM TotalStorage® 3584 Tape Library/ IBM System Storage TS3500 and discovery/element manager launch of IBM 3494 Tape Library.

Heterogeneous storage support is offered via the Storage Networking Industry Association's Storage Management Initiative Specification (SMI-S) Versions 1.0.2 and 1.1 (or later). Management capabilities include operational control, asset/capacity management, as well as provisioning of heterogeneous storage platforms. These include storage devices from Hitachi Data Systems, Hewlett-Packard Co., EMC, Network Appliance, LSI and Engenio. IBM Tivoli Storage Productivity Center also provides performance reporting at the port and switch levels for platforms from Brocade Communications, McDATA Corp. and Cisco Systems.



Productivity Center for Data

IBM Tivoli Storage Productivity Center for Data provides over 400 enterprise-wide reports, monitoring and alerts, policy-based action and file-system capacity automation in a heterogeneous environment. IBM Tivoli Storage Productivity Center for Data is designed to help improve capacity utilization of file systems and databases and add intelligence to data protection and retention practices.

With Productivity Center for Data, you can address the challenges of an on demand environment with customizable storage-management policies. It is designed to provide a single interface to manage storage assets. It provides a suite of tools to help enterprises to identify, evaluate, control and predict storage usage. It also is designed to enable management of key aspects of the storage infrastructure: Capacity, assets, events and availability. Productivity Center for Data offers active, policy-based management for an automated, self-healing approach to storage resource management.

Productivity Center for Data also includes asset management and business unit chargeback capabilities, enabling you to align your storage infrastructure with business objectives and manage storage as an internal, application-driven utility.

Today, more customers are looking for ways to organize their corporate information, manage it efficiently and establish service levels for different classes of storage. Productivity Center for Data can assist with all three elements. Productivity Center for Data is designed to provide autonomic computing capacity management through its file-system-extension capability. Through monitoring, Productivity Center for Data detects when a user-defined threshold has been reached, and extends the file system, to help prevent a potential outage.

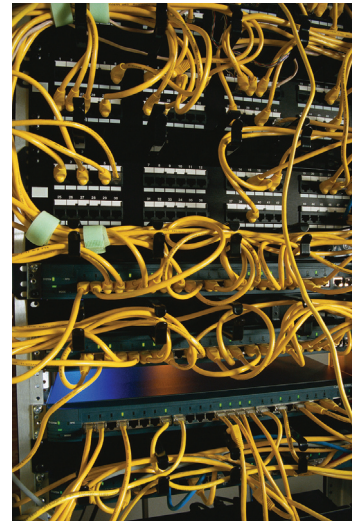
Productivity Center for Data is designed to enable you to define and enforce storage policies. It provides event management, which you can use to help fix or avoid storage outages. And you can choose to be notified before any corrective action is executed.

Key features include:

- Designed to offer comprehensive enterprise reporting, monitoring and alerts to help improve storage utilization and availability, and help you manage more with the same resources
- Designed to provide capacity management and storage provisioning leveraging automation.
- Provides intelligent management options, subsystem reporting and network-attached storage (NAS) support
- Designed to enable storage administrators to monitor, report on and manage growing NAS resources with a universal view of direct-attached storage and NAS—from a file system or application perspective.
- Chargeback for storage capacity usage based on multiple metrics to help customers move to an On Demand storage environment.
- Direct Tivoli Storage Manager integration allows administrators to initiate a Tivoli Storage Manager archive or backup via a constraint or directly from a file report simplifying policy based actions.

Productivity Center for Disk

Tivoli Storage Productivity Center for Disk is designed to provide storage device configuration and management from a single console. It includes performance capabilities to help monitor and manage performance, and measure service levels by storing received performance statistics into database tables



for later use. Policy-based automation enables event action based on business policies. It sets performance thresholds for the devices based on selected performance metrics, generating alerts when those thresholds are exceeded. Tivoli Storage Productivity Center for Disk helps simplify the complexity of managing multiple SAN-attached storage devices.

TPC's ability to collect asset data and capacity data without resident agents improves performance and simplifies server data collection while reducing burden on IT administrators to monitor agents.

Productivity Manager for Disk is designed to enable the IT administrator to:

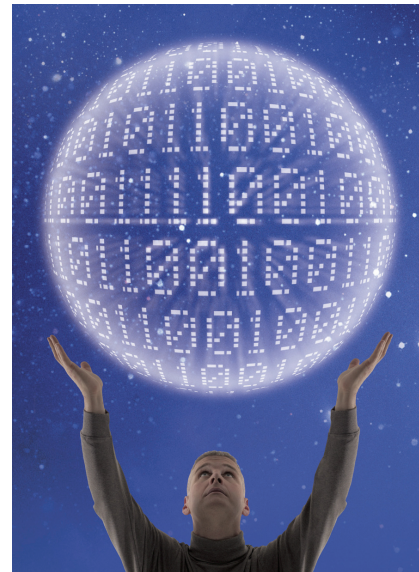
- Enable proactive performance management with a single, integrated console for performance management of IBM System Storage devices.
- Monitor performance metrics across multiple storage subsystems from a single console.
- Designed to allow administrators to monitor metrics, such as I/O rates and cache utilization, and support optimization of storage through the identification of the best LUNs across multiple storage subsystems.
- Monitor and measure services levels by storing performance statistics for analysis and generation of reports on monitored devices.
- Receive timely alerts to enable event action based on customer policies by setting performance thresholds for the devices based on performance metrics and the generation of alerts when those thresholds are exceeded.
- Provides a Performance Optimization Engine that can help reduce service times of resource-constrained application by an average of 48 percent and up to a maximum of 90 percent

Key benefits include:

- Designed to help you improve storage return on investment by keeping SANs operational reliably and dependably
- Designed to help reduce storage administration costs by simplifying the management of complex SANs
- Designed to offer continuous real-time monitoring and fault identification to improve SAN availability

Productivity Center for Disk Midrange Edition

IBM Tivoli Storage Productivity Center for Disk Midrange Edition offers equivalent functionality to IBM Tivoli Storage Productivity Center for Disk. It is designed to provide storage device configuration, performance monitoring, and management of IBM System Storage DS3000 and DS5000 systems from a single console.



Administrators can monitor and analyze performance statistics for these storage systems down to five minute intervals. The performance data can be viewed in real time in the topology viewer, stored for historical reporting, or used to generate timely alerts by monitoring performance thresholds for various device parameters.

Utilizing a new Storage Management Initiative—Specification (SMI-S) Common Information Model (CIM) agent, Tivoli Storage Productivity Center for Disk Midrange Edition helps gather performance data such as:

- Controller input and output rate (read/write/total)
- Controller data rate (read/write/total)
- Controller cache hits percentage (read/write/overall)
- Port I/O rate (read/write/total)
- Port data rate (read/write/total)



Productivity Manager for Disk Midrange Edition is designed to enable the IT administrator to:

- Provide reporting across multiple arrays from a single console
- Receive timely alerts that can enable event action based on business policies by monitoring performance thresholds for the devices based on performance metrics and the generation of alerts when those thresholds are exceeded
- Monitor performance metrics such as input and output (I/O) and data rates, and cache utilization across multiple storage subsystems from a single console
- Help administrators measure services levels by storing received performance statistics into database tables for later use, and helps analyze and generate reports on monitored devices for display in the central administrative console

Key benefits include:

- Designed to offer continuous and proactive performance analysis with real-time monitoring and fault identification to help improve SAN availability
- Designed to help you improve storage return on investment by keeping SANs operational reliably and dependably
- Designed to help reduce storage administration costs by simplifying the management of complex SANs

Tivoli Storage Productivity Center for Disk Midrange Edition is set apart from IBM Tivoli Storage Productivity Center for Disk because it is:

- Designed to support IBM's entry-level and midrange storage disk products (DS3000 and DS5000).
- Licensed per storage device, such as disk controllers and their respective expansion units.

Productivity Center for Replication

IBM Tivoli Storage Productivity Center for Replication is designed to support hundreds of replication sessions across thousands of volumes, supporting both open and z/OS® attached volumes. In addition, it helps monitor performance of all copy session types and reports on the amount of data exposed at the disaster recovery site (not in synchronization with the source site). The Tivoli Storage Productivity Center for Replication Three-Site BC feature optionally provides three-site recovery management, supporting the IBM System Storage DS8000 Metro Global Mirror feature. The Three-Site feature is designed to support fast failover and failback, fast reestablishment of three-site mirroring, data currency at the remote site with minimal lag behind the local site, and quick resynchronization of mirrored sites using incremental changes only.

IBM Tivoli Storage Productivity Center for Replication is designed to provide configuration and management of the IBM copy services like FlashCopy®, Metro Mirror and Metro Global Mirror, Multiple Global Mirror capabilities.

Data replication is a core function required for data protection and disaster recovery. The Productivity Center for Replication is designed to control and monitor copy services operations in storage environments. It also provides advanced copy services functions for supported storage subsystems on the SAN.

IBM TPC for replication offers key features and capabilities designed to improve time to value and improve reliability and performance.

- OpenSwap for Open systems; *improves server system availability*
- Enhanced PPRC Path Management; *ensuring redundant port combinations*
- Disaster Recovery Planner; *integrates storage and replication functions*
- DS8000 Multiple Global Mirror Support; *improved performance enabling multiple GM sessions*
- Customizable port pairings; *minimizes outages, simplifies DR operations administration*
- Softcopy removal of copysets; *improved support for migration of sessions/copy services*
- Incremental FlashCopy Support for IBM System Storage® SAN Volume Controller (SVC)

TPC integration with Tivoli System Automation enables single point of control for both multi-tiered business applications and the corresponding data replication between two sites:

- End-to-end recovery of applications across heterogeneous and virtual environments
- Automatic start, stop, move of tiered applications
- Integrated monitoring and control of storage hardware replication sessions
- Enables lower-priority business applications to be shut down while keeping higher-priority business applications running

Productivity Center for Replication is designed to help an IT administrator to:

- Plan for replication when you are provisioning storage
- Keep data on multiple related volumes consistent across storage subsystems
- Perform stop-and-go functions with consistency on multiple pairs when an error occurs during a replication operation
- Take advantage of configuration assistance and automate the source-to-target pairing setup, as well as monitoring and tracking the replication operations
- Automate the mapping of source volumes to target volumes, allowing a group of source volumes to be automatically mapped to a pool of target volumes.
- Reduce downtime of critical applications
- Automate the mapping of source volumes to target volumes, allowing a group of source volumes to be automatically mapped to a pool of target volumes.

Productivity Center Basic Edition

Productivity Center Basic Edition is focused on providing basic device management services for IBM System Storage DS3000, DS5000 and DS8000 products, IBM SAN Volume Controller, IBM XIV Storage System and heterogeneous storage environments. Productivity Center Basic Edition is a management option available with IBM System Storage hardware acquisitions. This tool provides storage administrators a simple way to conduct device management for multiple storage arrays and SAN fabric components from a single integrated console that also is the base of operations for the IBM Tivoli Storage Productivity Center suite. Productivity Center Basic Edition also does discovery and asset management of tape libraries, specifically IBM 3494 and 3584 Tape Libraries.

Productivity Center Basic Edition provides:

- Discovery and configuration of supported devices
- Event gathering, error logging, and launch of device element managers
- Provisioning support, including LUN allocation and assignment
- Basic Asset and Capacity Reporting
- A Topology viewer—End to End Storage Topology View and Health Console
- A simple upgrade path to IBM Tivoli Storage Productivity Center for Disk, Data or Fabric

Productivity Center Basic Edition capabilities are built-in features within the following products:

- Tivoli Storage Productivity Center Standard Edition
- Tivoli Storage Productivity Center for Data
- Tivoli Storage Productivity Center for Disk
- Tivoli Storage Productivity Center for Disk Midrange Edition
- Tivoli Storage Productivity Center for Replication Two-site BC
- Tivoli Storage Productivity Center for Replication Three-site BC
- Tivoli Storage Productivity Center for Replication for System z®

Productivity Center Standard Edition

IBM Tivoli Storage Productivity Center Standard Edition is one of the industry's most comprehensive storage resource management solutions by combining the consolidated benefits of the following three components as one bundle at a reduced price:

- Tivoli Storage Productivity Center for Data
- Tivoli Storage Productivity Center for Disk
- Tivoli Storage Productivity Center Basic Edition

In addition to the benefits and features of Data, Disk and Basic Edition, Productivity Center Standard Edition offers additional management, control and performance reporting for the fibre channel SAN infrastructure. These features include the following benefits:

- Provide automated device discovery, topology rendering, error detection and fault isolation, SAN error predictor, zone control, real-time monitoring and alerts, and event management for heterogeneous enterprise SAN environments.
- Help simplify the management and improve the availability of the SAN environment.
- Provide automatic device discovery and allow multiple SAN views, including physical, logical and zone views.
- View and analyze multiple aspects of the storage environment, including capacity, utilization, assets and availability.
- Detect storage events and generate the appropriate alerts to the administrator.
- Provide a number of SAN availability features, including SAN error protector. An autonomic computing capability, SAN error predictor is designed to help predict SAN network problems before they become severe and impact data and application availability. This functionality incorporates predictive failure analysis into the storage network environment, designed to allow administrators to be proactive in managing SAN availability.

- Provide basic diagnostic capabilities to show which resources are impacted by an availability or performance issue in the SAN. Today, it can monitor performance at the port and switch level, and display this information in the common topology viewer for IBM Tivoli Storage Productivity Center.

Enabling Information on Demand and IT Service Management

IBM Tivoli Storage Productivity Center is a foundation platform that helps customers manage their corporate information strategies. As a key operations management application that provides storage infrastructure management, IBM Tivoli Storage Productivity Center enables Information on Demand by helping customers classify storage, manage storage service levels and reduce the cost of storage over time. IBM Tivoli Storage Productivity Center is also a crucial platform for IBM Tivoli IT Service Management, helping customers with both storage service support and service delivery.

For more information

To learn more about the IBM Tivoli Storage Productivity Center, please contact your IBM representative or IBM Business Partner, or visit:

ibm.com/storage/software/center

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