
Overview

New and Enhanced Product Features
- Improved performance when writing to 3590 tape devices or devices which emulate 3590 on OS/390® V2R10 or z/OS systems
- A Tivoli Storage Manager backup-archive client for zSeries and S/390 Linux
- Tivoli Decision Support for Storage Management Analysis, a component of Tivoli Storage Resource Reporting, adds capacity reporting and analysis to the previously available event, performance, and general health reporting and analysis

Enhanced Windows® Client Support
- Improved overall incremental backup performance with journal-based backups for the Windows NT® and Windows 2000 clients
- Enhancements to Windows 2000 System Object support allow both the restore of inactive versions and point-in-time restore

- Tivoli Storage Manager automatic dialup capabilities to establish network connection for mobile Windows users for scheduled backups
- Server utilities replaced by significantly enhanced functions available in a snap-in for the Microsoft™ Management Console (MMC)


Key Prerequisites
Refer to the Hardware and Software Requirements section.

At a Glance
Enhancements to Tivoli Storage Manager for S/390 Edition:
- Improves performance (up to 40%) when writing to 3590 tape devices (or devices that emulate 3590 on OS/390 V2R10 or z/OS systems)
- Helps administrators make informed, pro-active decisions with the addition of capacity reporting and analysis
- Adds a valuable option for (Windows-based) Tivoli Storage Manager Management Console for remote client backup and restore functions

Windows Enhancements:
- Improves overall incremental backup performance with journal-based backups
- Supports both the restore of inactive versions of the systems objects and point-in-time restore
- Saves users time with automatic dial-up for scheduled backups


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OS/390 or z/OS Performance Improvements — The Tivoli Storage Manager server will write data in 256 KB blocks on 3590 devices, or devices that emulate a 3590, for OS/390 V2R10 or z/OS operating systems that support 256 KB blocks. This can result in up to a 40% improvement in throughput for client backup to the 3590 tape devices or those that emulate 3590.

Linux for zSeries and S/390 Client — Tivoli Storage Manager, S/390 Edition includes a Linux for zSeries and S/390 backup-archive client. This client clientables backup and restore functions for Linux operating systems running on S/390, within an S/390 logical partition (LPAR), within an Integrated Facility for Linux (IFL), or under the Virtual Image Facility™ (VIF), VM/ESA, or z/VM. This affords a wide variety of options for sustaining robust Linux availability in the S/390 environment.

Support for Data Encryption — You can now selectively encrypt Tivoli Storage Manager client data sent to the server during backup and archive operations with standard DES 56-bit encryption. Encryption is optional and is controlled by client options for the Windows, AIX®, Solaris, HP-UX, NetWare, SGI, Linux, NUMA-Q®, TRU64, OS/390 UNIX® Systems Services, and Linux S/390 clients.

Extending Tivoli Storage Manager Server Log Size — The Tivoli Storage Manager database log size limitation has been increased from 5 GB to 13 GB. This larger size improves the scalability of the Tivoli Storage Manager server by providing more flexibility in the timing of Tivoli Storage Manager database backups.

Space Reclamation for Selected Volumes — The Move Data command can now be used to recover unused space from specified sequential-access storage pool volumes. Empty space can accumulate within file aggregates as files are deleted from a Tivoli Storage Manager server. The Move Data command now provides an option for removing this empty space by reconstructing aggregates during data transfer. This option provides the ability to control the sequential-access volumes from which space will be recovered. This support is in addition to the automated space recovery that is done today during reclamation at the storage pool level.

Tivoli Decision Support for Storage Management Analysis — Tivoli Storage Resource Reporting is a set of powerful, best practice decision support guides that assist storage administrators in making informed, pro-active decisions relating to their Tivoli Storage product implementations, including Tivoli Storage Manager and Tivoli Storage Network Manager. Tivoli Storage Resource Reporting is included as part of both Tivoli Storage Manager V4.2 and Tivoli Storage Network Manager V1.1 at no additional charge. However, you must have purchased Tivoli Decision Support, 5698-TDS, in order to use Tivoli Decision Support for Tivoli Storage Resource Reporting. The Tivoli Framework is not required.

The best practice guide for Tivoli Storage Manager, Tivoli Decision Support for Storage Management Analysis, provides text-based reports, graphical reports, and trend analysis on Tivoli Storage Manager deployments, from small to very large. In addition to the previously available event, performance, and general health reporting, it now provides capacity reporting and analysis. Tivoli Decision Support for Storage Management Analysis works with all Tivoli Storage Manager servers, Version 3.7 or later. The supported relational database management systems (RDBMSs) are DB2®, MS SQL, and Oracle.

Windows Enhancements

Journal-Based Backups — Tivoli Storage Manager supports journal-based backups to increase overall incremental backup performance for Windows NT and Windows 2000 clients. Performance is improved because the files to be backed up are tracked in a journal. Journal-based backups eliminate the need for the client to scan the local file system or query the server to determine which files to process. It also reduces network traffic between the client and server.

Windows 2000 System Objects — Windows 2000 clients support the restore of inactive versions of system objects as well as point-in-time restore of system objects. The system objects backups can be directed to a specific management class.

Mobile Dial-Up Support — Tivoli Storage Manager, S/390 Edition, V4.2 supports remote network connections to a Tivoli Storage Manager AIX, Solaris, HP-UX, Windows NT, or Windows 2000 server. With a remote network connection, mobile Tivoli Storage Manager users, running on Windows, no longer need to manually dial into their company network for a scheduled backup. Tivoli Storage Manager automatic dialup capabilities establishes a connection prior to the scheduled backup. If the connection fails, Tivoli Storage Manager re-establishes the connection before attempting the backup.

Tivoli Storage Manager Management Console — The Tivoli Storage Manager Management Console integrates the following into a single interface:

- Web Administrator
- Web client
- Administrative command line
- Administrative console monitor
- Storage agent
- Windows device driver
- Scheduler
- Web client and server services
- Server utility wizards

On Windows 2000, it also integrates RSM, device management, event viewer, and system monitor snapins, providing a custom tool for storage management that is tightly integrated with the operating system environment. The console can detect all computers having Tivoli Storage Manager components in a Windows domain and it can detect active Tivoli Storage Manager Web Administrators and Web clients on Windows and non-Windows computers across the network. The Tivoli Storage Manager management console is translated to
all languages supported by the Tivoli Storage Manager Windows server.

The console provides a network neighborhood style view of Tivoli Storage Manager resources on the network and can include multiple Windows and non-Windows computers. The Windows server utility wizards are included and initial configuration has been simplified for easier configuration of the local server. Wizard configuration support has also been added for the Tivoli Storage Manager storage agent. In a Windows domain environment, Windows security is used to allow administrators to control the Tivoli Storage Manager device driver, server, client, and scheduler services on local and remote computers. The Tivoli Storage Manager Console allows the administrator to edit server option files and view Tivoli Storage Manager log files, component version levels, and device information on those computers.

Unicode Support for Windows NT and Windows 2000 Clients — When operating with V4.2 servers, Tivoli Storage Manager Windows NT and Windows 2000 clients support the Unicode code page for file, directory, and file space names. Unicode is a universal character encoding standard that supports the interchange, processing, and display of text that is written in any modern world language. Unicode file spaces provide support for multi-lingual workstations without regard for the current locale. The Tivoli Storage Manager V3.1 server on VM is not Unicode-enabled.

Support for VM/ESA and z/VM at Version 3.1

The Hardware and Software Requirements section of this announcement describes the current level of support for the Tivoli Storage Manager z/VM Version 3.1 server. Refer to Software Announcement 299-126, dated May 24, 1999, for other information regarding the Tivoli Storage Manager VM Version 3.1 server.

Accessibility by People with Disabilities

The Tivoli Storage Manager, System/390® Edition, V4.2 has been reviewed for Accessibility Readiness, and an IBM accessibility checklist has been completed.

The following features support use by people with disabilities:

- Operation by keyboard alone using Command Line Interface
- Screen readers and screen magnifiers tested for use by people with visual impairment
- Speech recognition products tested for use by people with mobility impairment using Command Line Interface
- Optional display of audio alerts for people with hearing impairment
- Optional font enlargement and high-contrast display settings for Windows-based installations

Euro Currency

These programs are not impacted by euro currency.

Product Positioning

Tivoli Storage Manager allows users to confidently protect and manage information; it integrates unattended network backup and archive capabilities with centralized storage management and powerful disaster recovery functions. Tivoli Storage Manager, System/390 Edition is intended for companies with System/390 or zSeries orientation. It is a best-of-breed, scalable storage management solution that can help protect and manage mission-critical data that is spread across your company’s enterprise.

Tivoli Storage Manager, System/390 Edition is an industrial-strength centralized storage management product for your enterprise. Tivoli Storage Manager can protect the following backup-archive clients: Windows 98/NT/2000, NetWare, Macintosh, as well as AIX, Sun Solaris, HP-UX, Linux, and other UNIX variants. A Tivoli Storage Manager server is provided on OS/390, Windows NT/2000, AIX, Solaris, HP-UX, and OS/400®. This breadth of platform coverage affords you the choice in selecting the storage management platform that suits your environment, and leverages your hardware and software investments. Tivoli Storage Manager can help control the cost of distributed storage management by leveraging storage resources, helping to reduce the cost of downtime and lost data and to increase the productivity of storage administrators and end users.

There are several elements to the unique product positioning of Tivoli Storage Manager:

- Tivoli Storage Manager is a centralized storage management solution that protects both mission-critical data and entire business applications to help keep your business running.
- Tivoli Storage Manager through, its advanced tape management capabilities and exploitation of the large block support in OS/390 V2R10, provides significantly improved backup performance to support timely backups and assist reliable recovery. This helps to reduce business disruption in the event of a disaster due to application or data corruption or loss.
- Tivoli’s central point of management capabilities, within a heterogeneous environment, allows consistent policy control and consistent user interface to help lower cost in resources and training. This allows companies to spread knowledge to all employees to assist with collaborative, effective, and timely decision making.
- Tivoli Storage Manager is an offering that is supported by the IBM and Tivoli worldwide support and services infrastructure, and is developed by leveraging breakthroughs and advancements in IBM and Tivoli research and development.

Tivoli Ready: The answer to integration and manageability concerns — The Tivoli Ready partnering program is designed specifically to meet the diverse needs of customers by working with hundreds of industry-leading hardware and software vendors to offer integrated tools and products that can be effectively managed by Tivoli.

- Tivoli Ready brand designates third-party products that meet key integration standards for manageability by Tivoli software solutions.
- Tivoli Ready extends to virtually all areas of the IT environment, from business software applications and systems management tools to hardware systems and devices.
- Tivoli Ready manageability can be provided in a variety of methods, such as use of the Tivoli Management Agent or a special management module.
Tivoli Ready products are tested and certified in a Tivoli lab to meet Tivoli integration standards before gaining the Tivoli Ready designation and labeling.

**Tivoli Ready for Tivoli Storage Manager** — There are currently two ways to integrate into Tivoli Ready for Tivoli Storage Manager.

1. **Client API Integration**
   - Current Partners:
     - OTG
     - The Kernel Group
   - Additional Information

2. **Extended Library Manager Integration**
   - Current Partner:
     - Gresham
   - Additional Information

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**Hardware and Software Support Services**

**SmoothStart™ /Installation Services**

IBM SmoothStart and Installation Services are not provided.

**Tivoli Professional Services**

Tivoli Professional Services currently consists of Integration, Knowledge Engineering, and Implementation Consulting services. For further information, refer to the Tivoli Web page at:

[http://www.tivoli.com](http://www.tivoli.com)

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**Reference Information**

- For information on Tivoli Storage Manager, V4.1 One-Time Charge (OTC) offering, and Tivoli Space Manager, refer to Software Announcement 200-245, dated July 25, 2000.
- For information on Tivoli Storage Manager V3.7 and related products, refer to Software Announcement 299-281, dated September 28, 1999.
- For information on Tivoli ADSM for VM/ESA and MVS®, Version 3.1, refer to Software Announcement 299-126, dated May 24, 1999

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Training is available for all Tivoli® products. Education is offered through IBM Education and Training, and through Tivoli Systems. Worldwide information about education offerings is available on the IBM Education and Training home page at:

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For current information on Tivoli Systems education, call 512-436-8000, or visit the Tivoli Systems home page at:

http://www.tivoli.com/services/education

Technical Information

Specified Operating Environment

Hardware and Software Requirements

Tivoli Storage Manager Supported Devices

The Tivoli Storage Manager, S/390® Edition supports DASD and tape drives that are supported by the OS/390®, z/OS, VM/ESA®, or z/VM operating systems.

Current information can be found at the following Web site:

http://www.tivoli.com/support/storage_mgr

requirements.html

Server and Backup-Archive Client Requirements

The current minimum disk space requirement for installing a UNIX®-based Tivoli Storage Manager backup-archive client is approximately 25 MB, with an additional 5 MB required for the API.

The current minimum disk space requirement for installing a desktop Tivoli Storage Manager backup-archive client will vary up to 30 MB, with an additional 5 MB required for the API.

The minimum disk space requirement for running the backup-archive clients ranges from 1 MB up to 20 MB. This does not include the installed client package, nor any of the individual options that may be associated with a given client, including the API, GUI, and driver options you may have selected at installation.

All of the communication protocols supported for each server and client are included below. The actual communication protocols that can be used for any particular server/client combination are limited to those protocols supported by both server and client.

These server requirements and backup-archive client requirements may experience some modifications on an ongoing basis, which typically result from product maintenance and client modifications.

For the most current and specific server or backup-archive client requirements and installation instructions, be sure to review the README file instructions that accompany the products being installed.

For the most current Tivoli Storage Management product versions supported and related information, refer to the Tivoli Storage Manager Web site:

http://www.tivoli.com/storage

Tivoli Storage Manager Web Interface Requirements

The Tivoli Storage Manager Web administrative interface for the server and a Web client interface for client machines require a 1.1.6-capable browser, such as Java™ Runtime 1.1.6, Netscape 4.06 or 4.5, or Microsoft® Internet Explorer 4.01, at the current level.

Refer to the Backup-Archive Client Requirements section for the specific operating system levels supported for the Web clients. TCP/IP is the only communication protocol supported for this client interface.

The Web backup-archive client support is available for Tivoli Storage Manager servers only.

OS/390 and z/OS Server Requirements for Tivoli Storage Manager V4.2

A Tivoli Storage Manager for OS/390 and z/OS server requires the following hardware and software:

- Machine — Any S/390 or zSeries architecture CPU
- Minimum disk space requirement to run: refer to the product README file
- Operating system — one of the following:
  - OS/390 Release 6, or later
  - z/OS Release 1, or later
- SMP/E
- Language Environment®
- Communication Protocol — one of the following:
  - APPC (VTAM® LU6.2)
  - 3270 Extended Data Stream (VTAM LU2.0)
  - TCP/IP, requiring one of the following:
    - IBM TCP/IP Communications Server (CS) for OS/390
    - Sterling Software Corp. TCPaccess Version 4.1, or later
  - IUCV

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A Tivoli Storage Manager for VM server requires the following hardware and software:

- Any S/390 or zSeries architecture CPU

One of the following:
- Language Environment

One of the following communications protocols:
- TCP/IP, requiring IBM TCP/IP Feature for VM/ESA or IBM TCP/IP Feature for z/VM
- APPC, requiring IBM ACF/VTAM® for VM/ESA

CMS Administrative Client

An administrative client is provided for CMS. It is shipped with the VM server and has no additional requirements beyond those stated for the VM server.

TSO Administrative Client

A TSO client is provided as an administrative client with the Tivoli Storage Manager for OS/390 and z/OS program product. It is intended for execution under the TSO environment and requires the following hardware and software:

- Language Environment
- Communication Protocol — one of the following:
  - APPC, (VTAM LU6.2)
  - TCP/IP, requiring one of the following:
    -- IBM TCP/IP Communications Server (CS) for OS/390 or z/OS Communications server
    -- Sterling Software Corp. TCPaccess Version 4.1, or later
  - IUCV

Tivoli Storage Manager Backup-Archive Client Requirements

AIX® Backup-Archive Client

An AIX backup-archive client requires the following hardware and software:

- Machine — RS/6000® or pSeries
- Minimum memory and space requirement to run:
  - RAM — 64 MB
  - Disk space — refer to the README file
- Operating system — AIX 4.3.3 or AIX 5L for POWER V5.1
- X Windows® System, X11R6
- Motif 1.2 or Motif 2.0
- Common Desktop Environment (CDE)
- Communication Protocol — one of the following:
  - TCP/IP, which comes standard with AIX/6000 (the only one used for Web client)
  - Shared Memory (with AIX server only)

Client Capabilities:

- Administrative Client Command Line Interface (CLI)
- Backup-Archive CLI
- Backup-Archive Graphical User Interface (GUI)
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API
- X/Open API
- AFS®/DFS™ (supported on AIX 4.3.3 only, by AFS 3.6, DFS 3.1)

Additional client capabilities requirements (over and above the system requirements stated above for a backup-archive client):

- Tivoli Storage Manager API support
  - Additional disk space — refer to the README file
- Administrative Client CLI
  - IBM AIXwindows® Environment/6000 (5601-257) for AIX 4.3

AIX HSM Client

An AIX HSM client requires the Tivoli Space Manager product (5698-SPM) and the following hardware and software:

- Minimum hardware configuration:
  - Machine — RS/6000 or pSeries
  - RAM — 256 MB
  - Disk space — 1 GB for an HSM-managed file system
- Recommended hardware configuration:
  - Machine — RS/6000 or pSeries multiprocessor system
  - RAM — 512 MB
  - Disk space — 10 GB for an HSM managed file system
- Operating system — AIX 4.3.3 or AIX 5L for POWER V5.1 in 32-bit mode
- X Windows System, X11R6
- Motif 1.2 or Motif 2.0
- Common Desktop Environment (CDE)
- JFS
- Communication Protocol — one of the following:
  - TCP/IP, which comes standard with AIX/6000
  - Shared Memory (with AIX server only)

Apple Macintosh Backup-Archive Client

An Apple Macintosh backup-archive client requires the following hardware and software:

- Machine — any PowerBook or Power Macintosh personal computer
- Minimum memory and space requirement to run:
- RAM — 16 MB
- Disk space — refer to the README file

- Operating system — Macintosh Operating System 8 or 9
- Communication Protocol:
  - TCP/IP (MacTCP 2.0.6 or Open Transport 1.1.1, or later)

Client Capabilities:
- Backup-Archive GUI

Hewlett-Packard HP-UX Backup-Archive Client
A Hewlett-Packard HP-UX backup-archive client requires the following hardware and software:
- Machine — HP 9000 Series 700 or 800 workstation
- Minimum memory and space requirement to run:
  - RAM — 64 MB
  - Disk space — refer to the README file
- Operating system — HP-UX level 11.0 or 11i
- The X Windows System X11R6
- Motif 2.0
- Common Desktop Environment (CDE)
- Communication Protocol:
  - TCP/IP, which comes standard with HP-UX
  - Shared Memory (with HP-UX server only)

Client Capabilities:
- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive GUI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API
- X/Open API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):
- Tivoli Storage Manager API
  - Refer to the README file

Linux for x86 Backup-Archive Client
A Linux for x86 backup-archive client requires the following hardware and software:
- Machine — X86 based PC architecture (for example Pentium™) and higher
- Minimum memory and space requirement to run:
  - RAM — 64 MB
  - Disk space — refer to the README file
- Operating system requirements:
  - Linux kernel 2.2.x (for x=13 or later)¹
  - Linux kernel 2.4.x (for x = 0 or later)³
  - glibc 2.1.0 or 2.2 (for x=2 or later)
  - libstdc++ 2.9.x (for x=0 or later)
  - RPM 3.0.x or 4.0 (for x=0 or later)
  - X Windows System X11R6 (for end-user GUI only — refer to the README file)

¹ Only one kernel level can be used.

- The following distributions fulfill the requirements:
  - Red Hat 7.0, 7.1
  - SuSE 7.0, 7.1
  - TurboLinux 6.0

Note: The client was certified by Tivoli for these distributions. Verify for other distributions that the operating system requirements listed above are fulfilled.

- Communication Protocol:
  - TCP/IP, which comes standard with Linux

Client Capabilities:
- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive GUI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):
- Tivoli Storage Manager API
  - An additional 5 MB of disk space

Linux for zSeries and S/390 Backup-Archive Client
A Linux for zSeries and S/390 backup-archive client requires the following hardware and software:
- Machine — A 9672 G5 or G6, Multiprise® 3000, or zSeries 900 (32-bit mode)
- Minimum memory and space requirement to run:
- RAM — 64 MB
- Disk space — refer to the README file

- Operating system requirements:
  - Linux kernel 2.2.x (for $x=16$ or later)
  - glibc 2.1.x (for $x=2$ or later)
  - libstdc++ 2.9.x (for $x=0$ or later)
  - RPM 3.0.x (for $x=4$ or later)

- Linux distributions that fulfill these requirements include:
  - SuSE 7.0

  **Note:** The Linux z/series and S/390 client was certified by Tivoli for this distribution. Verify for other distributions that the software requirements listed above are fulfilled.

- Communication Protocol:
  - TCP/IP, which comes standard with Linux

**Client Capabilities:**
- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):
- Tivoli Storage Manager API
  - An additional 5 MB of disk space

**Novell NetWare Backup-Archive Client**

A Novell NetWare backup-archive client requires the following hardware and software:

- Machine — A personal computer or workstation running as a NetWare file server

- Minimum memory and space requirement to run:
  - RAM — 1 MB for each 8,000 files per volume
  - Disk space — refer to the README file

- Operating system — Novell NetWare 4.20 or 5.1 with current support patches from Novell

- One of the following communication protocols:
  - TCP/IP, which comes standard with Novell NetWare (the only one used for Web client)
  - APPC (LU6.2), which is available through NetWare for SAA®
  - IPX/SPX, which comes standard with Novell NetWare

**Client Capabilities:**
- Backup-Archive CLI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):
- Tivoli Storage Manager API
  - Additional disk space — refer to the README file

**OS/390 UNIX System Services Backup-Archive Client**

A Tivoli Storage Manager OS/390 UNIX System Services client requires the following hardware and software:

- Machine — any System/390®

- Minimum disk space requirement to run: 7 MB — refer to the README file

- Operating system — OS/390 V2R8, V2R9, or V2R10 with SMP/E

- Communication protocol:
  - IBM TCP/IP

**Restrictions** — Tivoli Storage Manager server functions not included in this client:

- SQLDB: Certain SQL select statements using path for the files backed up by an OS/390 UNIX System Services client might not work properly.

- Server command “query content”

**Client Capabilities:**
- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):
- Tivoli Storage Manager API
  - An additional 2 MB of disk space

**SGI IRIX UNIX Backup-Archive Client**

A SGI IRIX UNIX backup-archive client requires the following hardware and software:

- Machine — an SGI workstation with MIPS processor IP19 (R4K) or higher

- Minimum memory and space requirement to run:
  - RAM — 64 MB
  - Disk space — refer to the README file

- Operating system — IRIX UNIX Release 6.5 with EFS or XFS File Systems

- The X Windows System X11R6

- Motif 1.2 or 2.0

- Communication Protocol:
  - TCP/IP, which comes standard with IRIX UNIX

**Client Capabilities:**
- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive GUI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):
- Tivoli Storage Manager API
  - Additional disk space — refer to the README file
Sun Solaris Backup-Archive Client

A Sun Solaris backup-archive client requires the following hardware and software:

- Machine — A SPARCstation or compatible workstation
- Minimum memory and space requirement to run:
  - RAM — 64 MB
  - Disk space — refer to the README file
- Operating system — Sun Solaris 2.6, 7, or 8 (32-bit)
- X Windows System X11R6
- Motif 2.0
- Common Desktop Environment (CDE)
- Communication Protocol:
  - TCP/IP, which comes standard with Sun Solaris
  - Shared Memory (with Sun Solaris server only)

Client Capabilities:

- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive GUI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API
- X/Open API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):

- Tivoli Storage Manager API
  - Additional disk space — refer to the README file

Sun Solaris HSM Client (Available September 28, 2001)

A Sun Solaris HSM client requires the Tivoli Space Manager product (5698-SPM) and the following hardware and software:

- Minimum hardware configuration:
  - Machine — A SPARCstation or compatible workstation
  - RAM — 256 MB
  - Disk space — 1 GB for an HSM-managed file subsystem

- Recommended hardware configuration:
  - Machine — Multiprocessor system — SPARCstation or compatible
  - RAM — 512 MB
  - Disk space — 10 GB for an HSM managed file subsystem

- Operating system — Sun Solaris 2.6 or 7 in 32-bit mode
- Veritas File System (VxFS) 3.4
- X Windows System X11R6
- Motif 2.0
- Common Desktop Environment (CDE)
- Communication Protocol:
  - TCP/IP, which comes standard with Sun Solaris
  - Shared Memory (with Sun Solaris server only)

Client Capabilities:

- HSM Client CLI (requires optional Tivoli Space Manager product)
- HSM Client GUI (requires optional Tivoli Space Manager product)

Tru64 UNIX Backup-Archive Client (formerly Digital UNIX)

A Tru64 UNIX backup-archive client requires the following hardware and software:

- Machine — Any Compaq Alpha-alpha processor machine
- Minimum memory and space requirement to run:
  - RAM — 64 MB
  - Disk space — refer to the README file

- Operating system — Tru64 UNIX Version 5.1
- The X Windows System X11R6
- Motif 1.2 or 2.0
- Common Desktop Environment (CDE)
- Communication Protocol:
  - TCP/IP, which comes standard with Tru64 UNIX

Client Capabilities:

- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive GUI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API

Additional client capabilities requirements (over and above the system requirements stated above for the backup-archive client):

- Tivoli Storage Manager API
  - Additional disk space — refer to the README file

Windows 32-bit Backup-Archive Client

A Windows 32-bit (Intel) backup-archive client requires the following hardware and software:

- Machine — An Intel-based 80486 processor or Pentium-based processor
- Minimum memory and space requirement to run:
  - RAM — 32 MB
  - Disk space — refer to the README file

- Communication protocol — one for the following, which are included in the base Windows NT, Windows 98, Windows 2000 or Windows ME product package:
  - TCP/IP (the only one used for Web client)
  - Named Pipes

Client Capabilities:

- Administrative Client CLI
- Backup-Archive CLI
- Backup-Archive GUI
- Backup-Archive Web Client Interface
- Tivoli Storage Manager API
- ODBC

Tivoli Decision Support for Storage Management Analysis Requirements

Tivoli Decision Support for Storage Management Analysis is included as part of Tivoli Storage Manager Version 4.2, for no additional charge.
Tivoli Decision Support for Storage Management Analysis requires the following hardware and software:

- **Tivoli Decision Support (5698-TDS) Version 2.1**
  - For hardware and software requirements for Tivoli Decision Support, refer to Software Announcement 298-408, dated October 19, 1998.
- **Tivoli Storage Manager V4.2**
- **Communication Protocol:**
  - TCP/IP
- **Client Workstation for Tivoli Decision Support Loader**
  - Machine — Intel Pentium II 450 with 256 MB RAM, SVGA monitor 800x600
  - Operating system — Windows NT 4.0 with Service Pack 4
- **Database support:**
  - DB2® — 5.2, or later
  - SQL Server — 7.0, or later
  - Oracle — 8.1.5, or later
  - Note: Refer to your DBA support for specific database requirements.

**Note:** If you are using Tivoli Decision Support, you must have a 32-bit ODBC driver from the respective database vendor.

**Tivoli Data Protection for Lotus® Domino™ Version 1.1 on OS/390**

Tivoli Data Protection for Lotus Domino on OS/390 requires the following hardware and software:

- **Machine** — S/390
- **Minimum memory and space requirement to run:**
  - RAM — 128 MB
  - Disk Space — refer to the product README file
- **Operating system** —
  - OS/390 Version 2 Release 6, 7, 8, 9, or 10, configured with UNIX System Services
  - TCP/IP — Version 2 Release 3 for OS/390, or later
  - SMP/E Release 8, or later
  - Lotus Domino R5.0.1 Server or later
  - A Tivoli Storage Manager server
  - A Tivoli Storage Manager backup-archive client, if Tivoli Storage Manager central scheduling is used

**User Group Requirements:** This announcement satisfies or partially satisfies one SHARE Incorporated requirement.

The option to perform reconstruction during MOVE DATA satisfies the SHARE requirement number SSMVSS99022.

**Planning Information**

**Customer Responsibilities**

**Conversion:** For the OS/390 and z/OS servers, the Tivoli Storage Manager database is not automatically upgraded during the installation of the Tivoli Storage Manager OS/390 and z/OS V4.2 servers. The Tivoli Storage Manager administrator must explicitly initiate the database upgrade using the UPGRADEDB command parameter. After this database upgrade, the user can no longer run a previous version of the server with the database.

As a normal precaution, it is recommended that a full database backup be performed before installing the V4.2 code, as well as after completing the installation. Refer to the README files for more detailed information.

As part of a migration plan from Tivoli Storage Manager V4.1 to Tivoli Storage Manager V4.2, Tivoli Storage Manager clients and servers may be upgraded at different times. To help ensure that you can continue your backup and archive activities during the migration, note the following:

- A Tivoli Storage Manager V4.1 client can perform backup, restore, archive, and retrieve functions to a Tivoli Storage Manager V4.2 server.
- A Tivoli Storage Manager V4.2 client can perform backup, restore, archive, and retrieve functions to a Tivoli Storage Manager V4.1 server.
- A Tivoli Storage Manager V4.2 client can perform V3.1 functional level backup, restore, archive, and retrieve functions to a Tivoli Storage Manager Version 3.1 server on VM.
- A Tivoli Storage Manager V4.1 HSM client can perform migrate and recall functions to a Tivoli Storage Manager V4.2 server.
- A Tivoli Storage Manager V4.2 HSM client can perform migrate and recall functions to a Tivoli Storage Manager V4.1 server.
- Data that has been backed up from a Tivoli Storage Manager V4.2 client to any Tivoli Storage Manager server can be restored using a Tivoli Storage Manager V4.1 client, with the exception of the Windows V4.2 client and any V4.2 clients using encryption.
- All command line administrative clients can administer Tivoli Storage Manager V4.1 and V4.2 servers, and the V3.1 VM server.
- Storage agents and servers must be at the same level of code. When the server is upgraded, the storage agents, which are using that particular server, must be upgraded as well.

Other migration information:

- The following server operating systems supported in V4.1 were not migrated to V4.2 and are not supported in V4.2:
  - VM/ESA V2R2
  - AS/400® V4R3
- The following client platforms or operating systems supported in V4.1 were not migrated to V4.2 and are not supported in V4.2:
  - Tru64 4.0 and 5.0
  - Novell NetWare 4.11 and 5.0
  - SCO UnixWare
  - Windows 95
- The following client communication protocols supported on the following platforms in Tivoli Storage Manager V4.1 were not migrated to V4.2 and are not supported in Tivoli Storage Manager V4.2:
  - APPC (LU6.2) with the AIX client
  - APPC (LU6.2) with the Windows client
  - NetBIOS with the Windows client
To help minimize server performance impact with use of the Unicode option on Windows NT and Windows 2000 clients operating with V4.2 servers, follow the recommended migration techniques found in the Administrator's Guide for the V4.2 server platforms being used.

APPC and IPX/SPX communication protocols on the NetWare client are supported in Tivoli Storage Manager V4.2 but will not be supported in future Tivoli Storage Management releases.

Direct Customer Support: Direct customer support is provided by IBM Operational Support Services—Support Line. This fee service can enhance your productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services—Support Line will help answer questions pertaining to usage, how to, and suspected software defects for eligible products.

Installation and technical support is provided by IBM Global Services. For more information on services, call 800-IBM-4YOU (426-4968).

Packaging

Tivoli Storage Manager, S/390 Edition, V4.2 customers will be shipped the following basic materials with each order:

- Media containing the machine-readable code for VM, z/VM, or z/OS and OS/390 server platforms, whichever is ordered.
  - VM and z/VM server (3480 or 4-mm tape)
  - z/OS and OS/390 server (3480 or 4-mm tape)
  - Tivoli Storage Manager Backup-Archive Client, OS/390 (3480 or 4-mm tape)
  - Tivoli Storage Manager API, OS/390 (3480 or 4-mm tape)
- The Open Systems Feature functional code is packaged with the base server code, and is licensed for use by ordering the applicable feature number for Open Systems Feature under 5697-TS9.


CMS Administrative Client

An administrative client is provided for CMS. It is shipped with the VM server and has no additional requirements beyond those stated for the VM server. (Refer to the section on the Tivoli Storage Manager for VM server for the requirements list.)

- CD-ROM V4.2 (LCD7-0408) for desktop backup-archive clients.
- CD-ROM V4.2 (LCD7-0409) for UNIX backup-archive clients and Linux for zSeries and S/390 backup-archive client.


- CD-ROM (SK3T-1417) for Tivoli Storage Manager publications. VM publications are not included on this CD-ROM.
- CD-ROM (LCD7-0412) for Tivoli Storage Manager Secure Web Administrator Proxy.
- CD-ROM (LCD7-0404) for Tivoli Storage Resource Reporting.
- The Read This First document (GI10-0558), the Quick Start publication specific for the servers ordered, and the rest of the publications listed here for the Tivoli Storage Manager package:

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tivoli Storage Manager OS/390 and z/OS Quick Start</td>
<td>GC35-0415</td>
</tr>
<tr>
<td>Program Directory for Tivoli Storage Manager for OS/390 and z/OS</td>
<td>GI11-2597</td>
</tr>
<tr>
<td>Tivoli Storage Manager VM Quick Start Program Directory for Tivoli Storage Manager S/390 Edition for VM Server</td>
<td>GC35-0351</td>
</tr>
<tr>
<td>Tivoli Storage Manager Installing the Clients</td>
<td>SH26-4119</td>
</tr>
<tr>
<td>Tivoli Storage Manager Quick Reference for the Backup-Archive Clients</td>
<td>SH26-4118</td>
</tr>
<tr>
<td>Program Directory for Tivoli Storage Manager Backup-Archive Client, S/390 Edition</td>
<td>GI10-4542</td>
</tr>
<tr>
<td>Tivoli Storage Manager, S/390 Edition Licensed Program Specifications</td>
<td>GI10-4543</td>
</tr>
</tbody>
</table>

Tivoli Disaster Recovery Manager V4.2 customers will be shipped the following basic materials with each order:

- A CD-ROM (SK3T-1417) with the Tivoli Storage Manager publications
- The Read This First document (GI10-0558) and the following hardcopy publications:

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
</table>


To order Client Authorizations for the Linux for zSeries and S/390 backup-archive client, refer to the announcement listed in the Reference Information section, or under Ordering Information.

Security, Auditability, and Control

The announced programs use the security and auditability features of the host hardware.
The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

**Customer Financing**

IBM Global Financing offers attractive financing to credit-qualified commercial and government customers and Business Partners in more than 40 countries around the world. IBM Global Financing is provided by the IBM Credit Corporation in the United States. Offerings, rates, terms, and availability may vary by country. Contact your local IBM Global Financing organization. Country organizations are listed on the Web at:

http://www.financing.ibm.com

**Ordering Information**

**Current Licensees**

Current licensees of Tivoli Storage Manager, S/390 Edition, V4.1 (5697-TS9) will be sent a program reorder form that can be returned directly to IBM Software Delivery and Fulfillment (SDF).

Reorder forms are scheduled to be mailed by August 17, 2001. Reorder forms returned to SDF will be processed within ten workdays of receipt.

When release 4.2 is available, release 4.1 will no longer be available.

**New Licensees**

Orders for new licenses can be placed now.

Shipment will begin on the planned availability date.

New users should specify the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Product Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tivoli Storage Manager, S/390 Edition</td>
<td>5697-TS9</td>
</tr>
<tr>
<td>Tivoli Disaster Recovery Manager, S/390 Edition</td>
<td>5697-DRS</td>
</tr>
</tbody>
</table>

**Note:** To order Tivoli Space Manager V4.1 (5698-SPM), refer to Software Announcement 200-245, dated July 25, 2000.

The following new Client Connection license authorization features are added by this announcement, and are available beginning August 3, 2001. After July 31, 2001, and before October 31, 2001, new orders may select pre-existing Client Connection license features, or those defined in this announcement. After October 31, 2001, the Client Connection license features announced in Software Announcement 200-244, dated July 25, 2000, will no longer be available.

Refer also to Software Withdrawal 901-194, dated July 31, 2001.

**Basic License:** New License orders should refer to Software Announcement 200-244, dated July 25, 2000, for all ordering information, except the client connection license feature numbers contained in this announcement.

To order a basic license, specify the program number and feature number 9001 for asset registration. For a monthly license charge (MLC) and for Client Connection features, select the feature number from the above table. Also, specify the feature number for the desired distribution media. If a client interface for OS/390 UNIX, or OS/400® API is required, refer to the **Optional Machine-Readable Material** section in the above referenced announcement.

**Entry Support License (ESL):** To order an ESL license, specify the program number, feature number 9001 for asset registration, and the applicable ESL OTC feature number. Also specify the feature number of the desired distribution medium.

ESL charges are unaffected by this announcement. For ESL ordering information, refer to Software Announcement 200-244, dated July 15, 2000.

ESL machines can be determined by referring to the IBM Entry End User/390 Attachment (Z125-4379).

**Single Version Charging:** To elect single version charging, the customer must notify and identify to IBM the prior program and replacement program and the designated machine the programs are operating on.

**Basic Machine-Readable Material:** Basic Machine Readable Material is unaffected by this announcement. To order a basic license, specify the program number and feature number 9001 for asset registration. For a monthly license charge (MLC) and for Client Connection features, select the feature number from the above table. Also, specify the feature number of the desired distribution medium.

To specify distribution media for new orders, refer to Software Announcement 200-244, dated July 25, 2000.

**Customization Options:** Customization Options are unchanged by this announcement.

To customize delivery options for new or MES orders, refer to Software Announcement 200-244, dated July 25, 2000.

**Optional Machine-Readable Material**

To order, select the feature number for the desired distribution medium:

Optional Machine Readable Material is unchanged by this announcement. To order optional tape media features for OS/390 UNIX, OS/390 UNIX Client, and OS/390 UNIX API, refer to Software Announcement 200-244, dated July 25, 2000.

**Additional Ordering Information:** All ordering information, other than that for the Client Connection license features added by this announcement, remains unchanged from the original announcement listed below.

In order to use the Linux for zSeries and S/390 client, an Open Systems Feature is required. The Open Systems feature licenses the use of OS/390 UNIX System Services client and AFS/Distributed File Service (DFS) on the AIX client, as well as the Linux for zSeries and S/390 client. A license is required for each z/OS, OS/390, VM, or z/VM Tivoli Storage Manager server where the Open Systems server function resides.

One Client Connection is required for each Linux for zSeries and S/390 Client installation.


Publications

Publications listed in the Packaging section of this announcement are supplied automatically with the basic machine readable material.

Available Publications: The following hardcopy publications will be available for a fee, after product availability. These copies may be ordered from your IBM representative, through the Publication Notification System (PNS), or by direct order.

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tivoli Storage Manager Messages</td>
<td>GC35-0382</td>
</tr>
<tr>
<td>Tivoli Storage Manager for z/OS and OS/390 Quick Start V4.2</td>
<td>GC35-0415²</td>
</tr>
<tr>
<td>Tivoli Storage Manager for z/OS and OS/390 Administrator’s Guide V4.2</td>
<td>GC35-0416</td>
</tr>
<tr>
<td>Tivoli Storage Manager V4.2 for z/OS and OS/390 Administrator’s Reference V4.2</td>
<td>GC35-0417</td>
</tr>
<tr>
<td>Tivoli Storage Manager V3.1 VM Quick Start</td>
<td>GC35-0351²</td>
</tr>
<tr>
<td>Tivoli Storage Manager V3.1 VM Administrators Guide</td>
<td>GC35-0352</td>
</tr>
<tr>
<td>Tivoli Storage Manager V3.1 VM Administrators Reference</td>
<td>GC35-0353</td>
</tr>
<tr>
<td>Tivoli Storage Manager — Installing the Clients</td>
<td>SH26-4119²</td>
</tr>
<tr>
<td>Tivoli Storage Manager for Macintosh — Using the Backup-Archive Client</td>
<td>SH26-4120</td>
</tr>
<tr>
<td>Tivoli Storage Manager for NetWare — Using the Backup-Archive Client</td>
<td>SH26-4116</td>
</tr>
<tr>
<td>Tivoli Storage Manager for Windows — Using the Backup-Archive Client</td>
<td>SH26-4117</td>
</tr>
<tr>
<td>Tivoli Storage Manager — Quick Reference for the Backup-Archive Clients</td>
<td>SH26-4118²</td>
</tr>
<tr>
<td>Tivoli Space Manager, S/390 Edition Licensed Program Specifications</td>
<td>GL10-4543²</td>
</tr>
</tbody>
</table>

² These titles are included here to indicate that additional copies of these entitled publications may be ordered for a fee.

For a complete list of Tivoli Storage Manager publications, refer to the Tivoli Storage Manager Web site at:

http://www.tivoli.com/storage

Displayable Softcopy Publications

English versions of the Tivoli Storage Manager manuals are offered in displayable softcopy form, and can be downloaded from the Tivoli Web site at:

http://www.tivoli.com/storage

or alternatively from:


All unlicensed manuals are included. (The CD-ROM SK3T-1417 does not contain the VM publications, however these are downloadable and viewable at the Web address above.)

Displayable manuals can be used with the Adobe Acrobat Reader, or an HTML browser in any of the supported environments.

The Adobe Acrobat browser can be found at the Adobe Web site:

http://www.adobe.com

Terms and conditions for use of the machine-readable files are shipped with the files.

Licensed Documentation: Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

Customized Offerings

Most product media is shipped only via Customized Offerings (that is, CBPDO, ServerPac, SystemPac®). Non-customized items (CDs, diskettes, source media,
media kits) will continue to be shipped via the stand-alone product.

**IBM Operational Support Services — Support Line:** Yes

**Other Support:** System/390

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**Terms and Conditions**


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**Prices**

Prices are unaffected from V4.1, except for the following new Client Connection license features:

<table>
<thead>
<tr>
<th>Feature Description</th>
<th>Program Number</th>
<th>License Number</th>
<th>Monthly License Charge</th>
<th>Monthly License Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Client Connection</td>
<td>5697-TS9</td>
<td>0006</td>
<td>$5</td>
<td></td>
</tr>
<tr>
<td>250 Client Connections</td>
<td>5697-TS9</td>
<td>0007</td>
<td>1,250</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The above features are available beginning August 3, 2001. After October 31, 2001, Client Connection features 0002 and 0003 will no longer be available. Refer to:

- Software Announcement 200-244, dated July 25, 2000
- Software Withdrawal 901-194, dated July 31, 2001

Refer to the **Ordering Information** section for ordering conditions applying to Current Licensees.

**Entry Support License OTC:** An OTC authorizes use only on IBM Entry End User/390 machines.

For additional Tivoli Storage Manager (OTC) product information, refer to:

- Software Announcement 200-245, dated July 25, 2000
- Software Announcement 201-194, dated June 26, 2001

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**Note:** Shipments will begin after the planned availability date.

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