

StorageWorks Backup Sizing Tool Version 4.0

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HP



Agenda

- Overview
- Installation
 - Local Install
 - IIS installation and configuration
 - Client Installation and configuration
 - Web Version
- GUI interface
 - Major areas and uses
 - Sub menus, configuration and use
- LAB

Overview

- System requirements
 - Local Installation
 - Administrative access on local machine
 - IE version 5.x
 - Netscape version 5.x
 - IIS version 5.0 or greater is recommended
 - Internet connection (Used for some areas)
 - Web base use
 - IE version 5.x
 - Netscape version 5.x
 - Internet connection

Installation

- Local Install
 - IIS installation and configuration
 - Client Installation and configuration
- Web Version
 - No installation required

Local Installation

- Install the IIS Server
- Install the Client application
- Configuring Internet Explorer
 - Open Internet Explorer.
 - Click **Tools > Internet Options...** and then click the **Security** tab.
 - Click the Custom Level... button and verify that *Initialize and script ActiveX controls not marked as safe* is set to **Prompt** and click **OK**. This setting allows you to save the solutions you create in the tool.
 - If you're system uses a proxy server complete the following steps:
 - Click the **Connections** tab in the Internet Options window.
 - Click the **LAN Settings...** button and check the *Bypass proxy server for local addresses* checkbox.
 - Click **OK** to close the **LAN Settings** dialog.
 - Click **OK** to close the Internet Options window.
 - Reboot your system if you loaded Internet Information Services. If you did not have to load Internet Information Services, you are not required to reboot.

Local Installation

■ Operating Systems

– Windows 2000

- If you are running on Windows 2000 the installation process is complete. You can access the Backup Sizing Tool by:
- Double-click on the **HP StorageWorks Backup Sizing Tool** icon on your **Desktop** or in your **Start Menu**.
- If you are going to run the application from the web, Open Internet Explorer and enter: <http://localhost/sb/SWBST/index.asp> as the URL

– Windows XP

- If you are running Windows XP you need to configure Distributed COM permissions for the Interactive user. After completing the steps in the previous section, complete the following steps:

Local Installation

■ Operating Systems

– Windows XP

- If you are running Windows XP you need to configure Distributed COM permissions for the Interactive user. After completing the steps in the previous section, complete the following steps:
- Click **Start > Run**, and enter *Dcomcnfg* in the **Run** dialog to launch DCOMCNFG.
- In the **Component Services** window, double-click on **Component Services** under *Console Root*.
- Double-click **Computers** under the *Component Services*.
- Right-click **My Computer** under *Computers* and click **Properties** on the menu that displays.

Local Installation

■ Operating Systems

– Windows XP (Continued)

- Note: The following steps will need to be repeated for both **Access Permission** and **Launch Permission**.
- Click the **Default COM Security** tab and then click **Edit Default** button in the *Access Permissions* frame. The **Access Permission** dialog is displayed.
- Add the IUSR_ account:
 - (a) Click the **ADD** button.
 - (b) Click the **Advanced** button. This will open the **Select Users or Groups** dialog.
 - (c) Click the **Location** button and select the local computer name.
 - (d) Click **OK** and then click the **Find Now** button. A list of users and groups will be displayed.
 - (e) Highlight the entry which starts with IUSR and click **OK** to add it to the **Select Users or Groups** dialog.

Local Installation

■ Operating Systems

– Windows XP (Continued)

- Repeat the same instructions in the add IUSR_Account Secion to add the **INTERACTIVE** account.
- Click **OK** to close the **Select Users or Groups** dialog.
- Click **OK** to close the **Access Permission** dialog.
- Click the **Default COM Security** tab and then click **Edit Default** button in the Access Permissions frame. The **Access Permission** dialog is displayed.
- **Note: Repeat** steps listed above to complete the Distributed COM permissions for the Interactive user
- Click OK to close the **My Computer** dialog.
- Select **File > Exit** to close the **Component Services** window.

Local Installation

■ Operating Systems

– Windows XP (Continued)

- Open Windows Explorer:
- Right-click the drive letter of the local drive where you will be storing solutions.
- Select **Properties**
- Click the **Security tab** and verify that the IUSR and INTERACTIVE users have access to READ, WRITE and MODIFY files on the drive
- If these 2 users are not displayed, click the **ADD** button to view users for the local compute
- Add IUSR and INTERACTIVE users by clicking those user names and clicking the **ADD** button.
- Click **OK**. Check READ, WRITE and MODIFY options for the IUSR and INTERACTIVE accounts and click OK. This step allows StorageWorks Backup Sizing Tool users on the local machine to save solutions on this local drive.

Local Installation

■ Operating Systems

– Windows XP (Continued)

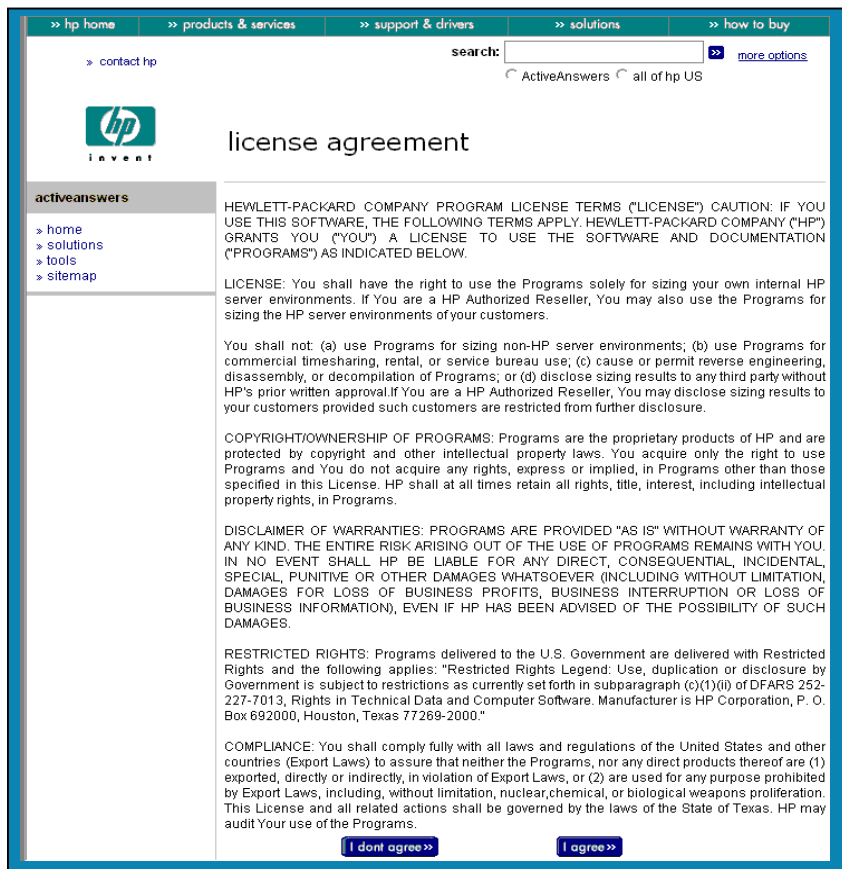
- In Windows Explorer:
- Navigate to the location where Sizer is installed. By default, this is located at [OS Drive]:\inetpub\wwwroot\SB, where [OS Drive] is the drive letter of the local drive.
- Right-click the SB folder and select Properties.
- Click the Security tab and verify that the Everyone user is set up with full control.
- From the \SB folder, navigate to \SWBST\Dlls ([OS Drive]:\inetpub\wwwroot\SB\SWBST\Dlls if you installed to the default location). Double-click the Register.bat file to update SWBST components information.

GUI Interface

In the next slides we will look at specific screens within the tool which are used in configuration control to determine the correct solution.

Major areas and uses

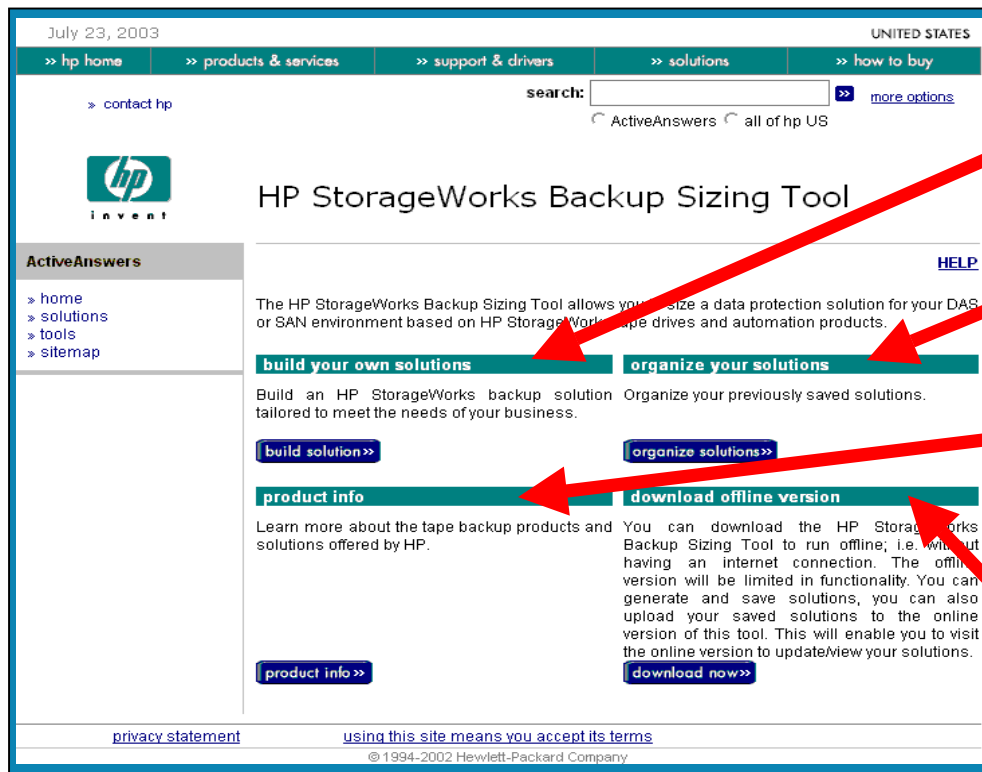
Initial Startup Screen



The End User License Agreement (EULA)

Major areas and uses

Online Version

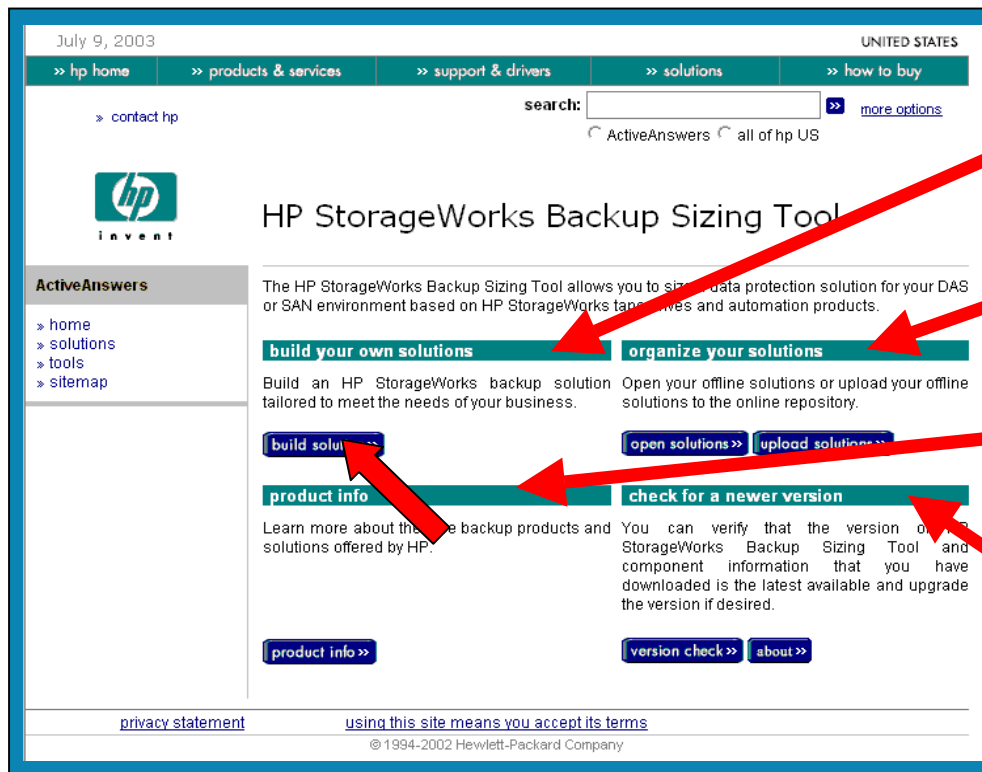


Divided into 4 major Sections

1. Build a Solution
2. Organize a Solution
3. Product Information
4. Download offline Version

Major areas and uses

Downloadable Version



Divided into 4 major Sections

1. Build a Solution
2. Organize a Solution
3. Product Information
4. Sizer Tool Updates

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backup solutions

Select one of the following backup solutions.

☒ **Fibre Channel SAN Backup Solution:**
The HP StorageWorks Fibre Channel SAN Backup Solution provides flexible data protection that shrinks the backup window using a Storage Area Network (SAN).

☐ **Direct Attach Backup Solution:**
HP provides a range of tape drives and libraries for backing up a single server or over a network.

data protection software

Select the data protection software you will be using in your configuration. If you are undecided, choose the "Undecided" option from the list.

Undecided
Undecided
HP OpenView Storage Data Protector
Computer Associates
Legato Networker
VERITAS Backup Exec
VERITAS NetBackup
Tivoli Storage Manager
CommVault Galaxy
Bakbone NetVault
SyncSort Backup Express
Altera Time Navigator
CA BrightStor Enterprise Backup Application

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Choose the type of Backup Solution you wish to build

1. Fibre Channel Solution
2. Direct Attached Backup

With either of these solutions, you may choose the data protection software you wish to use, or remain undecided. This can be changed later.

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server configuration

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configured servers [HELP](#)

Click the add button to add a new server.

select	server name	operating system	# of volumes
<< previous add >>			

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Define the number of servers and the different configurations. Click on the "add" button to begin configuring your first server.

Additional servers may be added after the first server is configured.

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server information

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server information

Provide the following details about your server's configuration.

Server Name

Server Model

Operating System

Vendor Name

Host Bus Adapter

☒ Cluster Support

FCA2101 FC 2Gb HBA (245299-B21)
HP StorageWorks A7268A 2 Gb FC HBA
64 Bit/133 Mhz PCI-X-to-Fibre Channel Host Bus Adapter (321835-B21)
HP StorageWorks FCA2355 2 Gb Fibre Channel HBA (308540-B21)

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Each server can and should be configured with its own unique attributes.

Define:

1. Server Name
2. Model or Type
3. Operating System
4. Type of Host Bus Adapter
5. Cluster support


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volume information

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Provide the following details about your volume's configuration.

Volume Data

Volume Name

Backup Data (GB) (1 - 99,000)

Global Annual Growth(%) (0 - 100)

☒ Compression ON :1

Disk drive controller

☒ Manual ☐ Partial

Backup Strategy

Enter the number of backup sets you want to keep onhand

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Smart Array 6402
Smart Array 641/642
Smart Array 51 Plus
Smart Array 5i
RAID LC2
Smart Array 5312
Smart Array 5304
Smart Array 5302
Smart Array 532
HSV Controller (EVA)
Array Controller (XP)
MSA1000 Array Controller
Virtual Array Controller
HSG80 Controller
HSZ22 Controller
Smart Array 5300A (Alpha)
KZPCC Backplane RAID (Alpha)
RAID Array 230/Plus (Alpha)
64-Bit/66MHz Ultra 320 Controller
64-Bit/66MHz Wide Ultra 3 Controller
Other (Ultra 320)
Other (Ultra 160)
Other (Wide Ultra 2)
Legacy (Wide Ultra or below)

Each Server contains 1 or more volumes of data. It is important to configure each volume's:

1. **Size**
2. **Estimated annual growth**
3. **Estimated Compressibility of the Data on the volume**
4. **Volume interconnect**
5. **Backup Strategy to be used**
6. **Number of Backup sets to be maintained**


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schedule information [HELP](#)

Provide the following details about your backup schedule.

☒ Backup window same for every day?

Start Time (00:00 - 23:59) End Time (00:00 - 23:59) Window Duration

Threshold time for restore (00:00 - 23:59)

day	type of backup	% change	data (GB)	start time	end time	window duration
<input type="checkbox"/> SUN	Full backup	20	500	18:00	06:00	12:00
<input checked="" type="checkbox"/> MON	Partial backup	20	100	18:00	06:00	12:00
<input checked="" type="checkbox"/> TUE	Partial backup	20	100	18:00	06:00	12:00
<input checked="" type="checkbox"/> WED	Partial backup	20	100	18:00	06:00	12:00
<input checked="" type="checkbox"/> THU	Partial backup	20	100	18:00	06:00	12:00
<input checked="" type="checkbox"/> FRI	Full backup	20	500	18:00	06:00	12:00
<input type="checkbox"/> SAT	Full backup	20	500	18:00	06:00	12:00

retention information

Keep Partial Backups

Erase Partial Backups (1 - 5)

Between Full Backups (1 - 5)

<<previous next>>

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Scheduling information is determined on a per volume basis.

Backup duration determines the amount of time allotted for a given backup to run and is used in determining the overall proper solution.

Days of the week and type of backup desired are selected via the checkboxes and pulldowns.

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volume configuration

[HELP](#)

configured volumes

The following volumes have been configured for your environment.

select	server name	volume name	data size(GB)
<input checked="" type="checkbox"/>	Server1	Volume1	500

[add >>](#) [copy >>](#) [delete >>](#) [next >>](#)

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Once a volume has been configured, you can then either add, delete or copy (clone) this volume to add additional volumes to the server. This process is repeated until all volumes are added to the server.

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server configuration

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configured servers

The following servers have been configured for your environment.

select	server name	operating system	# of volumes
<input type="checkbox"/>	Server1	Windows Server 2003 32-Bit	2
<input type="checkbox"/>	Server2	Windows Server 2003 32-Bit	3

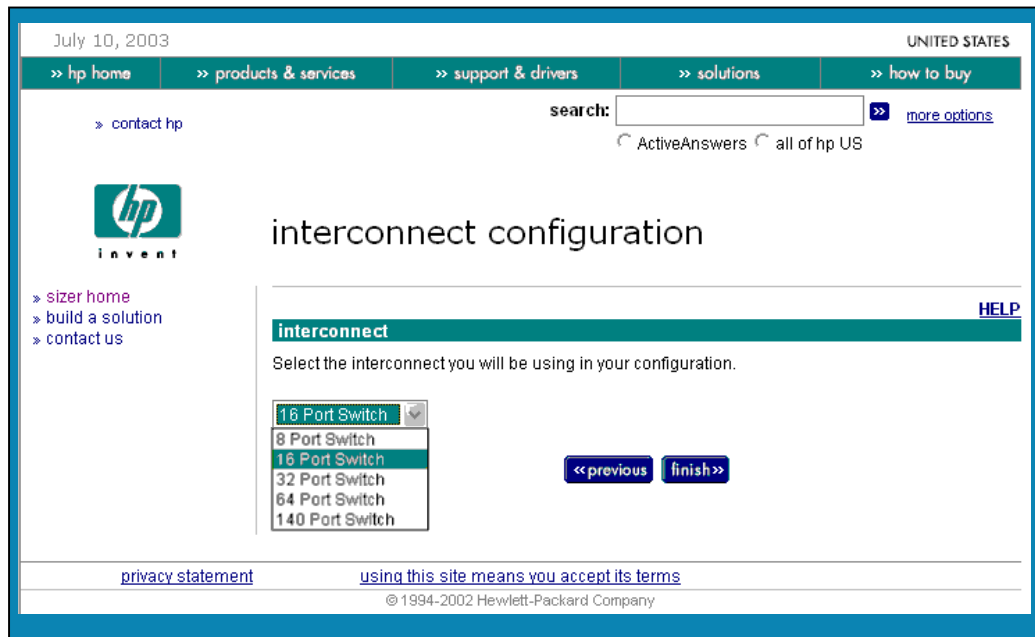
[add >>](#) [copy >>](#) [delete >>](#) [next >>](#)

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Once a server has been configured, you can then either add, delete or copy (clone) this server to add additional servers to the solution. It's important to get as much information on each server, and add all servers that will be included in the solution. This will allow the tool to properly size the solution.

Major areas and uses



The final step in the basic configuration is to choose the type of interconnect device (switch) that you will be using. Devices that are shown are supported within the solution.

Note: This screen does not show up in the DAS solution matrix

Major areas and uses


Choices Screen

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recommended solutions

solution	drive type	tape device	# of drives	# of tapes	
GOOD	Ultrium 230	MSL5030L1	1	16	save >> customize >> view solution >>
BETTER	SDLT 320	MSL5026S2	1	12	save >> customize >> view solution >>
BEST	Ultrium 230	MSL5060L1	1	16	save >> customize >> view solution >>

[customize your own solution](#) [view all solutions](#)

[click here to modify your configuration](#)

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This screen has 3 options:

- Save
 - Save configuration for review
- Customize
 - Change the configuration or tape solution
- View Solution
 - View your configuration


You can configure a solution from scratch using this link

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customize solution [HELP](#)

click below to modify components

- > data protection software
- > servers
- > interconnects
- > bridges
- > shared storages
- > **tape devices**
- > bill of material (bom)
- > schedule view
- > audit view
- > summary view
- > proposal generator
- > lead generator
- > save
- > close

drive type

drive type

configured tape devices

The following tape devices are supported in your current configuration.

select	tape device	drives	tapes	drives allocation
<input type="checkbox"/>	MSL5030L1	1	16	View

[copy >>](#) [delete >>](#)

all supported tape devices

Select a tape device.

☒ tape libraries

- MSL5060L1
- MSL5030L1
- ESL9595L1
- ESL9322L1

[add >>](#) [recommend >>](#)


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The customize screen gives you several options. From here, you can change the type of tape drive you want, change the type of tape library, or you can modify the configuration of the existing library. Additionally, a host of options on the left give you the ability to modify your solution or view schedule, summary, etc

Major areas and uses

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 schedule view

schedule view


server	volume	data (GB)	tape rotation	type	day	start time	est duration	stack #	tape device	drive #
Server1	Volume1	500	Full With Incremental	Full	SUN	6:00:00 PM	6:22	NA	MSL5030L1 (1)	1
Server1	Volume1	100	Full With Incremental	Incr	MON	6:00:00 PM	1:27	NA	MSL5030L1 (1)	1
Server1	Volume1	100	Full With Incremental	Incr	TUE	6:00:00 PM	1:27	NA	MSL5030L1 (1)	1
Server1	Volume1	100	Full With Incremental	Incr	WED	6:00:00 PM	1:27	NA	MSL5030L1 (1)	1
Server1	Volume1	100	Full With Incremental	Incr	THU	6:00:00 PM	1:27	NA	MSL5030L1 (1)	1

[Close Window](#)

The schedule view allows you to examine each configured volume within the solution and see the day, start time, and duration of each backup which is associated with the solution you have chosen

Major areas and uses

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 audit view

audit view

annual growth(%) [estimate >>](#)


User defined drives will be exhausted in 3 Year(s)

comp no	comp name	max ports	available ports	max drives	available drives	tapes assigned	% usage
1	8 Port Switch	8	6				75.00
1	MSL5030L1			2	1	24	50.00

[Close Window](#)

The audit view is a new screen which was added to account for customers annual growth potential. It will give you % of usage of the given solution, as well as allow you to change the annual growth rate to help you determine how long it will take to outgrow this solution.

Major areas and uses



summary view

summary view

The solution was configured to support the following environment.

data protection software

Undecided

supported data protection softwares

Computer Associates
Legato Networker
VERITAS Backup Exec

servers

1 server(s) were identified.

server 1 Server1
operating system Windows Server 2003 32-Bit
of volumes 1

volume 1 Volume1
controller Smart Array 6402
amount of data (GB) 500
backup type Full and Incremental Backups
no of retained full sets 3
restore time 10:00

backup schedule

server	volume	tape rotation	day	start time	estimated elapsed time	backup type	backup size(GB)
Server1	Volume1	Full With Incremental	SUN	6:00:00 PM	6:22	Full	500
Server1	Volume1	Full With Incremental	MON	6:00:00 PM	1:27	Incr	100
Server1	Volume1	Full With Incremental	TUE	6:00:00 PM	1:27	Incr	100
Server1	Volume1	Full With Incremental	WED	6:00:00 PM	1:27	Incr	100
Server1	Volume1	Full With Incremental	THU	6:00:00 PM	1:27	Incr	100

the sizing tool recommends the following hp StorageWorks products.

quantity	part number	description
1	245299-B21	hp StorageWorks 2GB, 64-Bit/66-MHz PCI to Fibre Channel Host Bus Adapter for Windows NT/W2K
1	301898-B21	MSL5030L1, 1Drv LTO ULTRIUM 230 TT Lib

The summary view details the entire solution with all volumes, part numbers, and information about each configured server and their volumes. Part number information is also contained in the table, along with required quantities.

Major areas and uses


After filling out the required information about yourself and your customer, the tool will allow you to open or save the proposal.

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 proposal generator

Enter details of Proposal Recipient.

*Contact Name
 Title
 *Company Name
 Street Address
 City
 State
 Zip Code
 Phone #

Note Fields marked as * are mandatory.

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***Note, you must have MS Word loaded for this to function. Immediately after opening the proposal generator, SAVE YOUR WORK FIRST**

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 proposal generator

Enter details of Proposal Issuer.

*Contact Name
 *Title
 *Company Name
 Street Address
 City
 State
 Zip Code
 *Phone #

Note Fields marked as * are mandatory.

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File Download

Some files can harm your computer. If the file information below looks suspicious, or you do not fully trust the source, do not open or save this file.

File name: SalesProposal.doc
 File type: Microsoft Word Document
 From: localhost

⚠ This type of file could harm your computer if it contains malicious code.

Would you like to open the file or save it to your computer?

☒ Always ask before opening this type of file

The Proposal



The Proposal

Backup Sizing Tool Sales Proposal

Second Edition (June 2003)

Part Number: 339046-001

Date: 7/10/2003

Joe Customer

AFC Inc.

123 Anywhere St, Suite 100

Somcity, TX, 77777

Dear Joe Customer,

Thank you for taking time and providing the valuable information you shared with me. Considering that information, I believe HP can help AFC Inc. increase profitability and staff productivity by providing an HP StorageWorks backup solution for your environment.

With the backup solution, HP addresses your unique data protection needs by offering you a scalable, flexible, high-performance backup and restore solution at the lowest total cost.

In selecting HP as your data storage protection provider, you will have the following advantages:

- Single source of interoperability with server and storage connectivity
- Data storage backup solution that scales with your requirements
- Support for HP platforms
- Support for Windows Server 2003 (.NET) operating system environments
- A quicker return on invested capital
- Low-cost, manageable systems that offer data integration between hardware and software using data management utilities like HP Insight Manager
- Integration with best-of-breed backup applications allowing for faster deployment and eliminating the need to retrain your staff

HP StorageWorks delivers the bottom-line results necessary to protect your business with the following components:

- A hp StorageWorks MSL5030L1 Library, which supports up to 3.0 TB and provides centralized, shared storage for your environment.
- Centralized monitoring and diagnostics of the tape device

Based on the information you provided, the HP StorageWorks backup solution meets your business criteria by supporting the growth of your business, protecting your investment and lowering your total system implementation and ownership costs.

I will contact you shortly to answer any questions you may have after reviewing this proposal and to discuss what steps your company should take to begin implementing a HP StorageWorks backup solution. Thank you again for your time and interest in establishing a partnership with Iwanna Sell U.

SINCERELY,

Joe Salesguy

Iwanna Sell U

456 Classy Act St

Phone: 800-555-5555

The Proposal

Executive Summary

Exponential growth of information technology in the business arena has led to an enormous volume of data stored in corporate environments. Backing up that data is increasingly important — and an expanding challenge. Companies need a scalable, high-performance solution to meet present and future data storage needs. HP has developed solutions for consolidated protection of business-critical data. HP StorageWorks backup solutions provide high-performance backup for many environments, ranging from backup of a standalone server, to consolidated backup for multiple servers.

HP delivers solutions based on customer needs:

- Confidence in knowing your backup solution will work with rigorous testing and retesting procedures
- Demonstrated interoperability with certified and supported Direct Attach Storage (DAS) to SAN configurations
- Data protection made simple with HP tools to design, deploy and manage your backup & recovery solution

Solution Summary

The following solution is specifically designed for your business requirements; it provides the growth capability, performance, and investment protection necessary to meet your business objectives.

Iwanna Sell U recommends 1 hp StorageWorks MSL5030L1 Library which supports up to 3.0 TB providing up to 2900 of storage capacity.

Bill of Materials

The following table includes part numbers, quantities, and descriptions for your recommended solution:

Quantity	Part Number	Description
1	245299-B21	hp StorageWorks 2GB, 64-Bit/66-MHz PCI to Fibre Channel Host Bus Adapter for Windows NT/W2K
1	301898-B21	MSL5030L1, 1Drv LTO ULTRIUM 230 TT Lib
1	262672-B21	MSL5000 embedded fibre option kit Graphite.
24	C7971A	HP Ultrium data cartridge
4	221692-B22	5m LC-LC Multi-Mode Fibre Channel Cable
1	C7978A	HP Ultrium Universal Cleaning Cartridge

These components are engineered to provide the backup solution with the capability to efficiently backup very large quantities of data without adversely affecting the corporate network's performance. HP integrates these components because each one offers the best technology to solve the problems of large-volume data protection. Combined, these components answer your needs for reduced administrative costs, greater manageability, and minimization of network problems caused by backups.

The Proposal

The HP Advantage

Storage Capacity

HP Advantage: Whether you need an internal or external tape drive, a rack-mount, stackable library, or an enterprise-class library with a minimum footprint, HP has a backup solution to meet your requirements. HP StorageWorks has data storage capacity for up to multiple terabytes, depending on the tape device chosen. You can capture 100 percent of the backup traffic with a high performance, direct attached tape drive, or with a centralized, shareable, automated backup solution servicing multiple heterogeneous servers within the larger network environment.

Performance

HP Advantage: For DAS configurations, the HP StorageWorks backup solution offers high-speed data transfer over SCSI channels connected between the storage server and the storage tape media. The HP StorageWorks SAN offers speeds of up to 200 MB/s, which improves performance over current LAN backup methodologies, with no electromagnetic interference. Capacities can be scaled more efficiently because bandwidth headroom is increased at the host-to-storage interface.

Scalability

HP Advantage: Supported HP tape library units can be added incrementally, keeping costs in check and offering a faster return on investment (ROI). Additional drives can be added to the library, as long as the library is not already maximized in its configuration. Instead of a "one size fits all" approach, the modularity of HP StorageWorks allows for tailoring of components to the unique requirements of your environment. For SAN environments, capacity, processing power, and throughput can be scaled simultaneously. Companies can scale their storage network architecture by adding more servers and tape drives to the existing infrastructure, as business needs dictate. You won't worry about losing your investment as technology advances; you will have the flexibility to advance concurrently.

Investment Protection

HP Advantage: HP lets you redeploy existing supported HP StorageWorks tape devices in both a DAS and SAN environment. This enables you to leverage existing software investments and training. In addition, server costs are lowered by sharing central backup devices. There is no need to purchase separate loops for different operating systems.

Reliability

HP Advantage: HP StorageWorks tape drives and tape automation offer fully integrated solutions with the integrity and reliability required for not only optimizing performance but also for increasing the reliability of the entire solution.

Cost of Ownership

HP Advantage: HP StorageWorks modular design lets you grow and change easily and cost-effectively to meet your future business needs. HP has an end-to-end data protection solution with HP StorageWorks and OpenView Storage Data Protector, but for customers that have standardized on a third-party backup application, HP StorageWorks backup solutions include support for leading ISV backup applications so no retraining is required.

Components

HP Advantage: The HP StorageWorks backup solution uses award-winning components. The tape device could be a standalone drive, autoloader, or a tape library. The advantage of an HP StorageWorks backup solution lies in providing the user with the option of selecting any tape device among those that are supported for configurations ranging from small workgroups to enterprise datacenters.

The Proposal

HP, the Technology Leader

HP Advantage: HP has an extensive history in the development and delivery of LTO Ultrium, SuperDLT, DLT, and DAT storage-protection solutions. This experience is leveraged each time HP engineering qualifies a new tape drive technology to improve performance, quality, or reliability.

HP, the SAN Leader

HP Advantage: HP is a founding member of the FC-AL community, which helped set the standards that increased bandwidth performance potential from that of SCSI based backup solutions running across a LAN environment.

The HP StorageWorks backup solution uses Fibre Channel capabilities on a dedicated, high-performance storage network, freeing bandwidth on the corporate network, which ultimately gives companies the performance they require.

Since HP is both a system and a storage solution supplier, our knowledge has led to an effective strategy that ensures data integrity and availability.

Integrated Software Solutions

A crucial component of the HP StorageWorks backup solution is the backup management software. It enables hardware components to work together seamlessly. HP has tested and certified leading backup applications to deliver an integrated, centralized storage solution.

Data Protection Backup Software

Backup and recovery software provides centralized management within a distributed environment and includes support for the following features:

- Multi-initiate storage activities — By creating multiple jobs for each volume on the server, one can use as many drives as required to back up large data in small backup windows.
- Centralized backup data — This reduces system administration costs, increases manageability of the backup/restore process, and increases the security of corporate data.

Continuing Support

Consulting Services

Designed to help our customers cut through the complexity of planning, implementing, and supporting the enterprise, HP storage consulting services are among the most valuable aspects of the HP backup solution. Experienced storage specialists will help streamline the planning and operation of your storage systems through design services, development of high-availability systems, testing and proof-of-concept services, and migration planning.

High Availability Support Services

HP provides support services designed to ensure high levels of availability for business-critical enterprise systems. Take advantage of the following options:

- 24/7 onsite hardware maintenance
- Remote technical support
- Proactive support
- Customized escalation plans

The Proposal

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Warranty

For tape drives, HP provides a three-year parts warranty.

For automation products, HP provides a one-year Limited Warranty, first year, on-site next day response, years two & three parts exchange. Additional Warranty protection can be purchased for automation products.

Note: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

Low Total Cost of Ownership

Your company can buy what it needs today and have the capability to scale capacity and performance as business requires.

Summary

Thank you for considering HP StorageWorks as the backup solution to meet your business criteria. The HP Advantage offers performance, scalability, investment protection and reliability for your environment. We invite you to return to the StorageWorks Backup Sizing Tool as your business grows to handle your data protection needs. HP will be there for you with new products offerings and robust solutions to best protect your critical data and keep you in front of your competition.

Questions

LAB

- Lab #1 – Direct attach Scenario
- Lab #2 – F/C Scenario
- Lab #3 – F/C Scenario

Direct Attach

A customer wants to do a backup of one of his HP Proliant server running Data Protector and Windows 2000 Advanced Server. The server has 1 volume. Volume 1 is on the internal 5I controller and has 85GB of 2 to 1 compressible data, and is showing a global annual growth of 25%. They want to have 1 full set of backups on hand at all times, and want the full backups to occur on Mondays, Wednesdays, and Fridays. Select the best solution for this customer.

LAB #1

What backup device is the best choice for this customer? Ultrium 460 Internal Tape Drive

What is the duration of the longest backup job that will run on this server? 30 Minutes

How many tapes will be required? 2

What is the part number for the Ultrium 460 internal tape drive? Q1518A

If the "Good" solution were chosen how long would each backup take? 1 hour 35 min

What is the Part number of the SDLT 220 Internal Drive? 192106-B25

Fibre Attach

A customer wants to do a backup of 3 of his HP Proliant servers running Veritas Netbackup and Windows 2000 Advanced Server. Two of the servers are identical. They use an HP Storageworks A7298A HBA's. 1 Volume is 500GB of 2:1 compressible data with a 20% annual growth connected to an MSA1000 Array controller. The second volume is 200GB of 1:1 compressible data with a 10% annual growth connected to an HSV Controller (EVA). They want to maintain 3 backup sets of all data on hand and do full backups on Sunday with Incremental backups on Mon-Fri. The other server is a Proliant server with a 64 bit PCI to Fibre Channel HBA running Windows NT. Volume 1 is 500GB of 2:1 compressible data with a 5% annual growth rate connected to an HSG80 Controller. They want to maintain 3 backup sets of all data on hand and do full backups on Sunday with Differential backups on Mon-Fri. All components are interconnected via a 16 Port Switch. Choose the better solution.

LAB #2

What backup device is the better choice for this customer? ESL9322L1

What is the duration of Server 1's volume 2 incremental Backup take each day? 52 Minutes

How many tapes will be required? 112

If the customers annual growth changed to 65%, how long would be required before their user defined tapes would be exhausted? 5 Years

If the "Best" solution were chosen how long would Server 1's volume 2 incremental Backup take each day? 52 Minutes

What is the Part number for an ESL9595L1? 176479-B21

Fibre Attach

A customer operates a server farm of 8 servers. Customer wants to use CA Brightstor Enterprise Backup. Half of the servers are HP Proliant W2K Advanced Servers, 2 servers are Sun Solaris 8.0 servers, and 2 are HP Netserver running W2K Advanced Server. All Servers in each family type are configured identically from a volume perspective. All HP Servers are using the HP Storageworks A7298A HBA's. All Sun Servers are using the Storageworks F/C HBA for Solaris (254456-B21). All W2K Servers contain 1 volume of 370GB of 1.5:1 compressible data with a 25% annual growth connected to an MSA1000 Array controller. All Sun Solaris 8.0 have 1 volume which is 200GB of 1:1 compressible data with a 10% annual growth connected to an array controller (XP). The HP Netserver have 1 volume of 200GB of 1.7:1 compressible data with a 5% annual growth and a medium feed speed.

They want to maintain 3 backup sets of all data on hand and do full backups on Sunday with Differential backups on Mon-Fri. All components are interconnected via a 32 Port Switch. Choose the better solution.

LAB #3

What backup device is the better choice for this customer? ESL9595S2

What is the duration of the longest backup job that will run on this Schedule? 9 Hours 9 minutes

How many tapes will be required? 168

How many upgrade drives will be required? 4

What is the Part number of the SDLT 160/320 Drive? 293414-B21



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