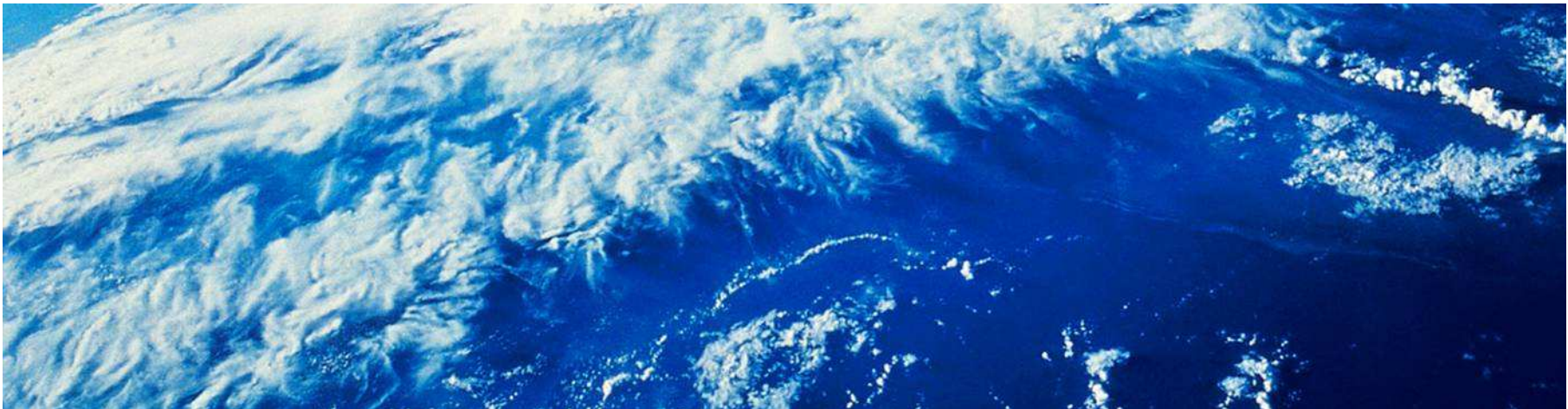
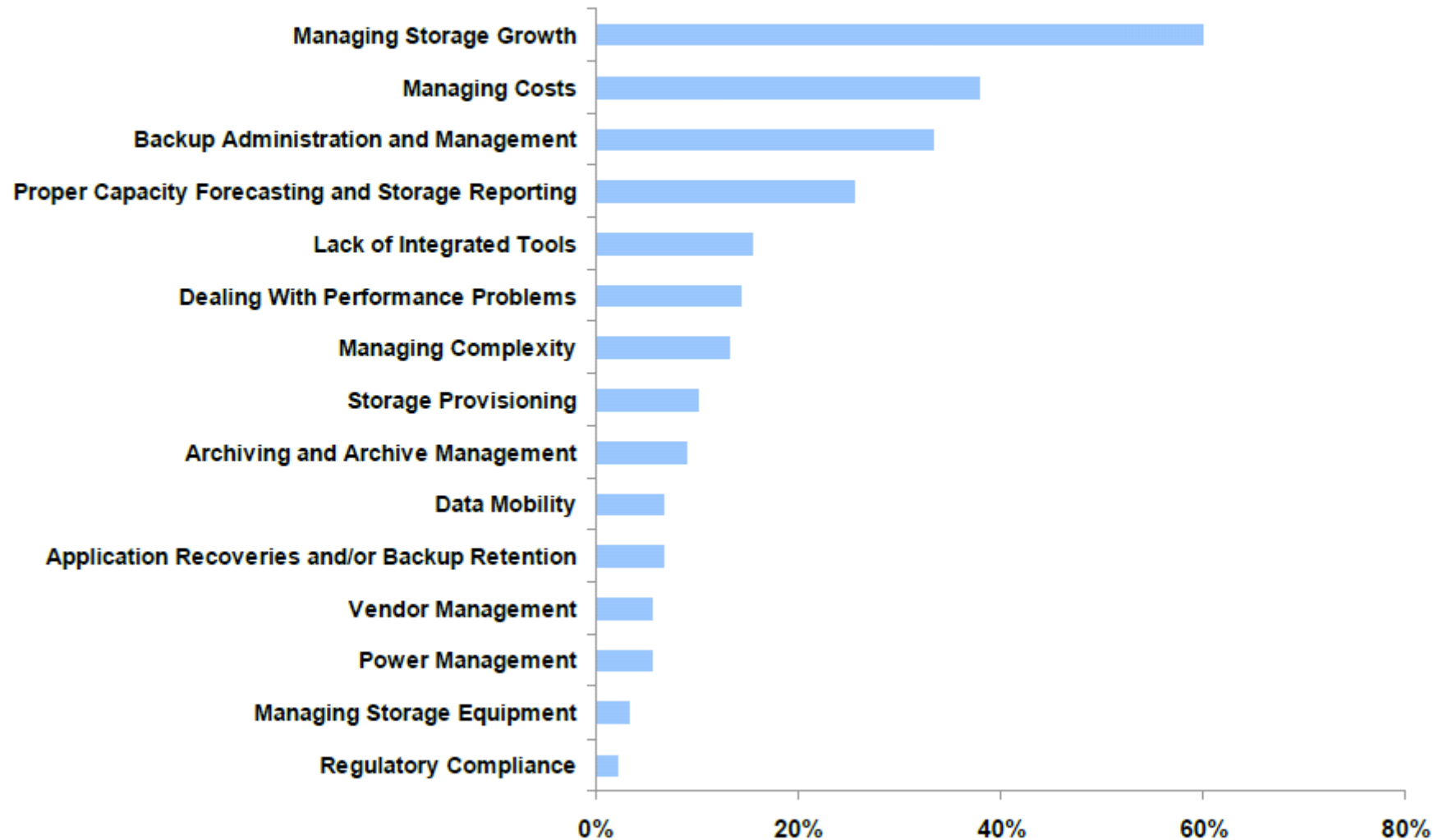

Tivoli Storage Update

A.Kindlbacher – Tivoli Brand



Storage Professionals' Pain Points

What are your top storage-related pain points?



Tivoli Storage Manager v6.2

What's New?

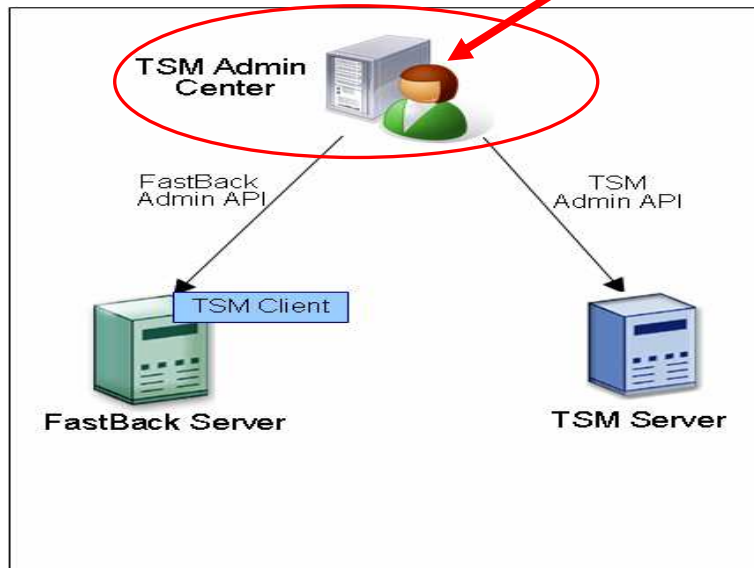
TSM Admin Center – *Unified Policy Management* TSM and TSM FastBack – *Unified Recovery Management* Integration

Integrated FastBack and TSM policies for:

- What to back up
- When to back up
- How long to retain

Benefits:

- Integrated management of policies between FastBack and TSM
- Automate protection and migration of FastBack server data to TSM
 - Centralized location and a single interface
 - Configure FastBack policies for short-term operational recovery
 - Long-term data retention and retrieval with TSM



TSM Admin Center – *Unified Policy Management* TSM and TSM FastBack Recovery Management Integration

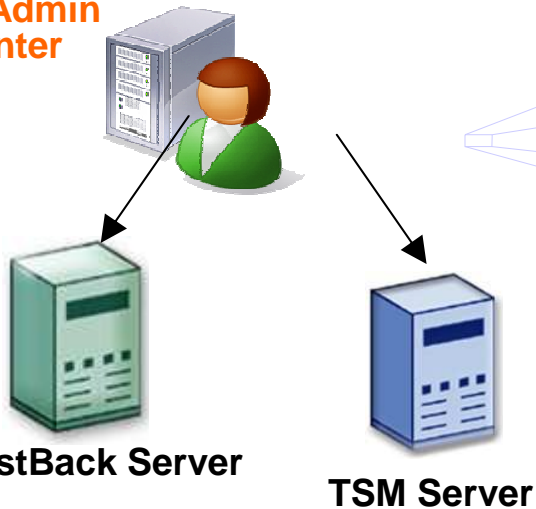
- Integrated policy configuration for FastBack client snapshots
- TSM client proxy backup / archive (using FastBack Mount).
- Configure from the TSM Admin Center:
 - Choose a TSM server and a Policy Domain, and create client nodes for the FastBack servers
 - Create or choose a FastBack policy to be protected
 - Create schedules for snapshots
 - Set up a schedule for the Tivoli Storage Manager client to backup the FastBack repository
 - Configure how long to retain data in FastBack and TSM
- Uses TSM client installed on the FastBack or DR Hub Server

Tighter integration with Tivoli Storage Manager's Admin Center

Launch FastBack Manager from the TSM Integrated Solutions Console (ISC)

Benefits:
Unified approach to managing data protection that extends from the Data Center to the Remote Office

TSM Admin Center



The screenshot shows the 'Integrated Solutions Console' interface. The left sidebar contains a navigation tree with categories like Security, Tivoli Storage Manager, and Settings. The main content area displays the 'FastBack Servers' management page. It includes a table with the following data:

Select	Server Name	TCP/IP Address	TCP/IP Port	Version	Tivoli Storage Manager Server	FastBack Manager Web Server Port
<input type="radio"/>	basil	basil.storage.tucson.ibm.com	11460	5.5.4.0	BASIL	Unknown
<input type="radio"/>	fvtrhx02	fvtrhx02.storage.tucson.ibm.com	11460	5.5.4.0	BASIL	16316

Below the table, it indicates 'Total: 2 Filtered: 2'. The interface also features various toolbars for actions and filtering.

TSM FastBack for Workstations includes central administration of 1000's of desktop and laptop computers

The screenshot shows the 'Integrated Solutions Console' interface. On the left is a navigation pane with categories like 'Security', 'Users and Groups', 'Troubleshooting', 'FastBack for Workstations', and 'Settings'. The main area is titled 'Clients' and contains a table of client information. Above the table, there are tabs for 'Health', 'Storage', and 'Deployment'. A summary bar shows 0 fatal, 0 critical, 0 warning, and 8 normal status counts. The table below has columns for 'Status', 'Client Name', 'Group', 'Administration Folder', and 'Last Report'.

Status	Client Name	Group	Administration Folder	Last Report
<input type="checkbox"/>	<input checked="" type="checkbox"/> T-60-Demo	Sales	MyCompany	9/30/09 12:35 PM
<input type="checkbox"/>	<input checked="" type="checkbox"/> R31-XP	Sales	MyCompany	9/30/09 12:52 PM
<input type="checkbox"/>	<input checked="" type="checkbox"/> TBURBA-T42P	Development	MyCompany	9/30/09 1:25 PM
<input type="checkbox"/>	<input checked="" type="checkbox"/> makarov	Accounting	MyCompany	9/30/09 1:23 PM
<input type="checkbox"/>	<input checked="" type="checkbox"/> Bushmaster	Development	MyCompany	9/30/09 12:37 PM
<input type="checkbox"/>	<input checked="" type="checkbox"/> P-32	Sales	MyCompany	9/30/09 11:45 AM
<input type="checkbox"/>	<input checked="" type="checkbox"/> Springfield-XP	Accounting	MyCompany	9/30/09 1:01 PM
<input type="checkbox"/>	<input checked="" type="checkbox"/> Howlin	Development	MyCompany	9/30/09 12:28 PM

FastBack for Workstations central administration can be combined with TSM and FastBack in one instance of the Tivoli Integrated Solutions Console

View Client Information:

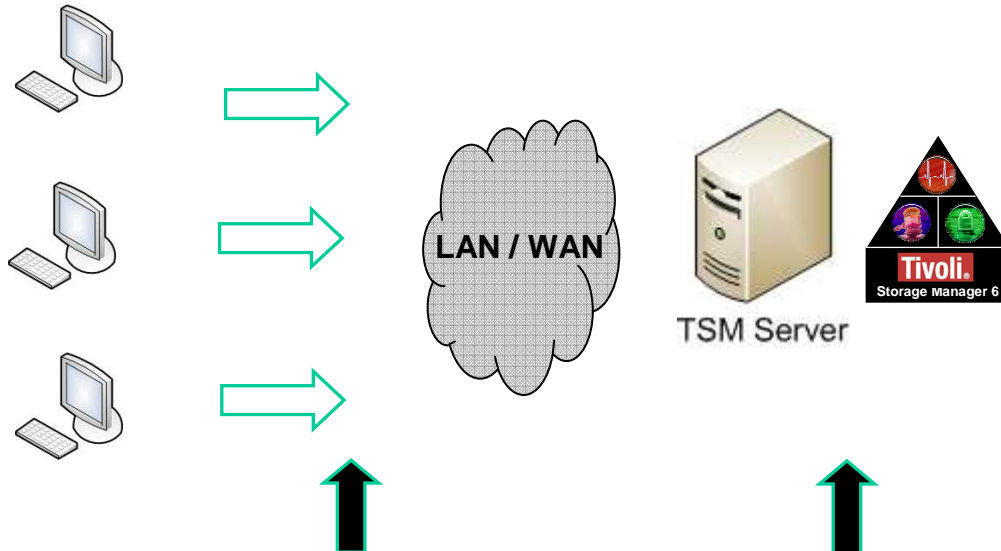
- Amount of storage being used
- Amount of client activity
- Current configuration
- Clients storage target

Take Client Actions:

- Force an incremental backup
- Push a configuration
- View log files
- View Alerts
- Admin can lock client configuration so it can not be changed

TSM Client Deduplication

TSM clients deduplicate file data



Conserves Bandwidth

- Duplicate files or portions of a file are not moved over the network
- Conserves bandwidth used during backup operations

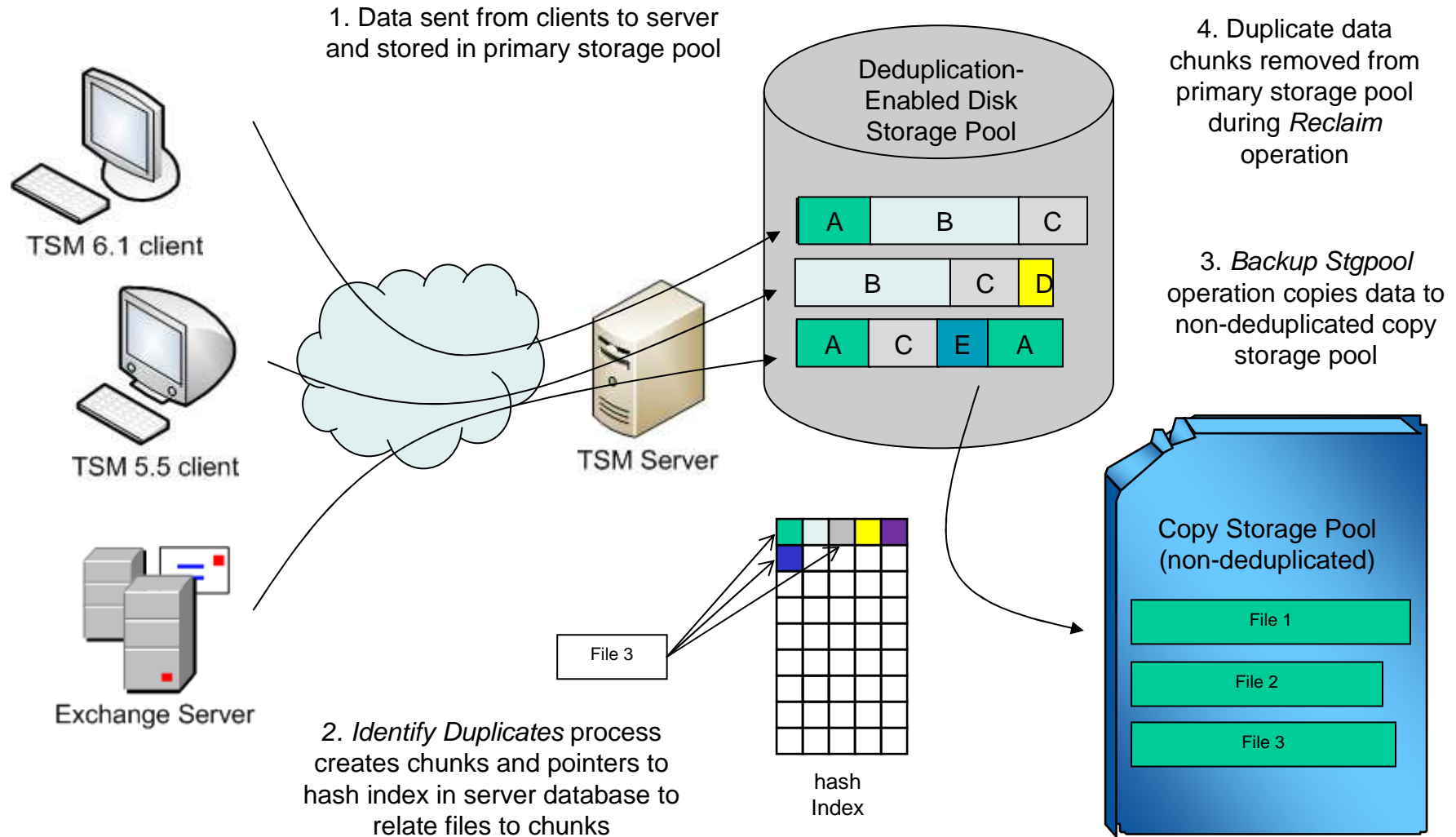
Saves Storage

- Only unique files or portions of a file are stored on disk
- Indexes are used to act as pointers to the original file

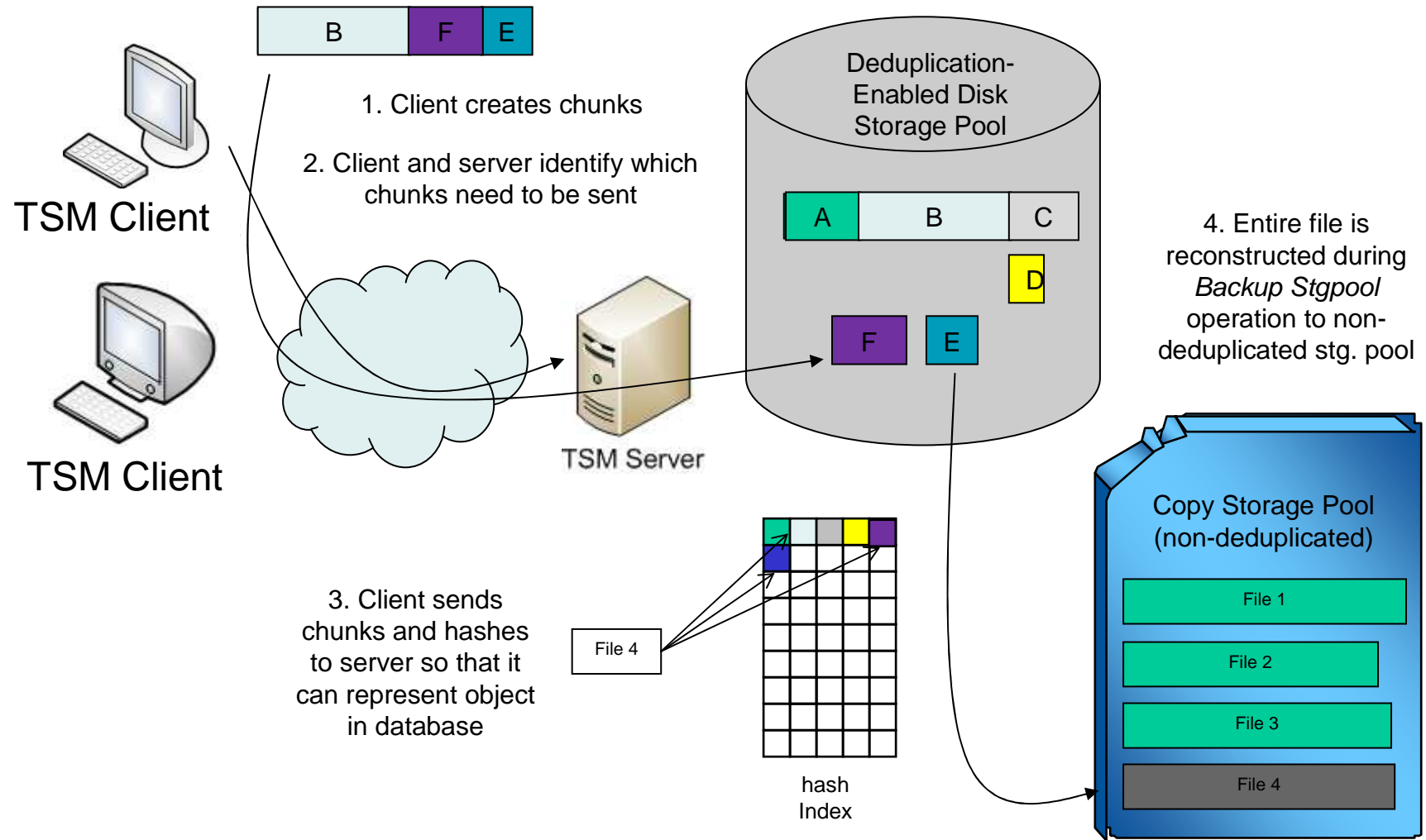
Benefits:

- Deduplication for file data
- Reduce network traffic by deduplicating data before transfer
- Reduced storage pool space requirements
- Faster backups
- Optimized to reduce network 'chattiness' when identifying duplicate data
- New Backup-Archive Client statistics report on deduplication and data reduction savings

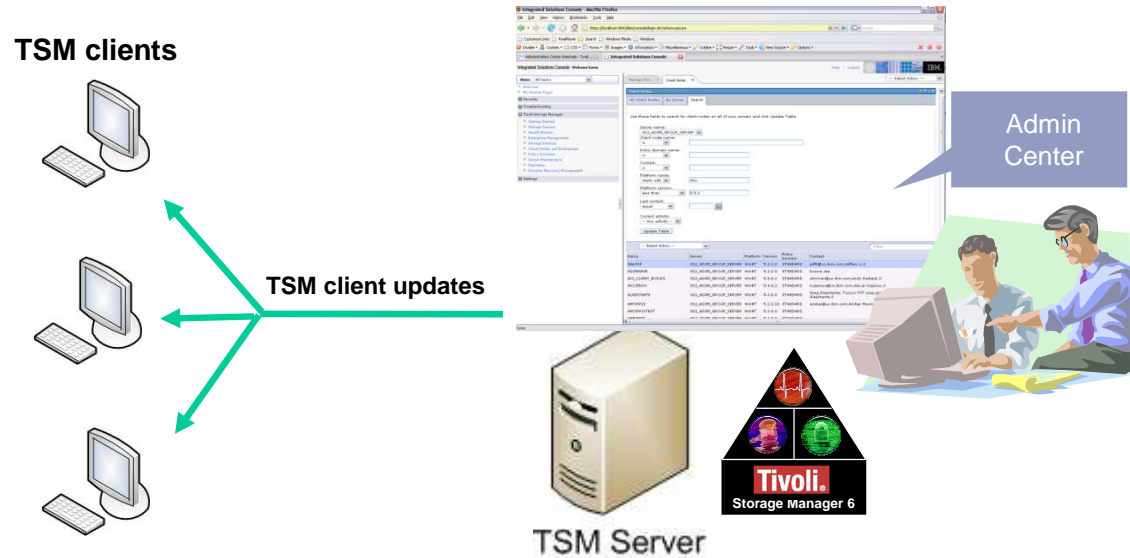
TSM Server Side Data Deduplication (TSM 6.1)



TSM Client Side Data Deduplication



Client Deployment for Windows BA clients



Benefits:

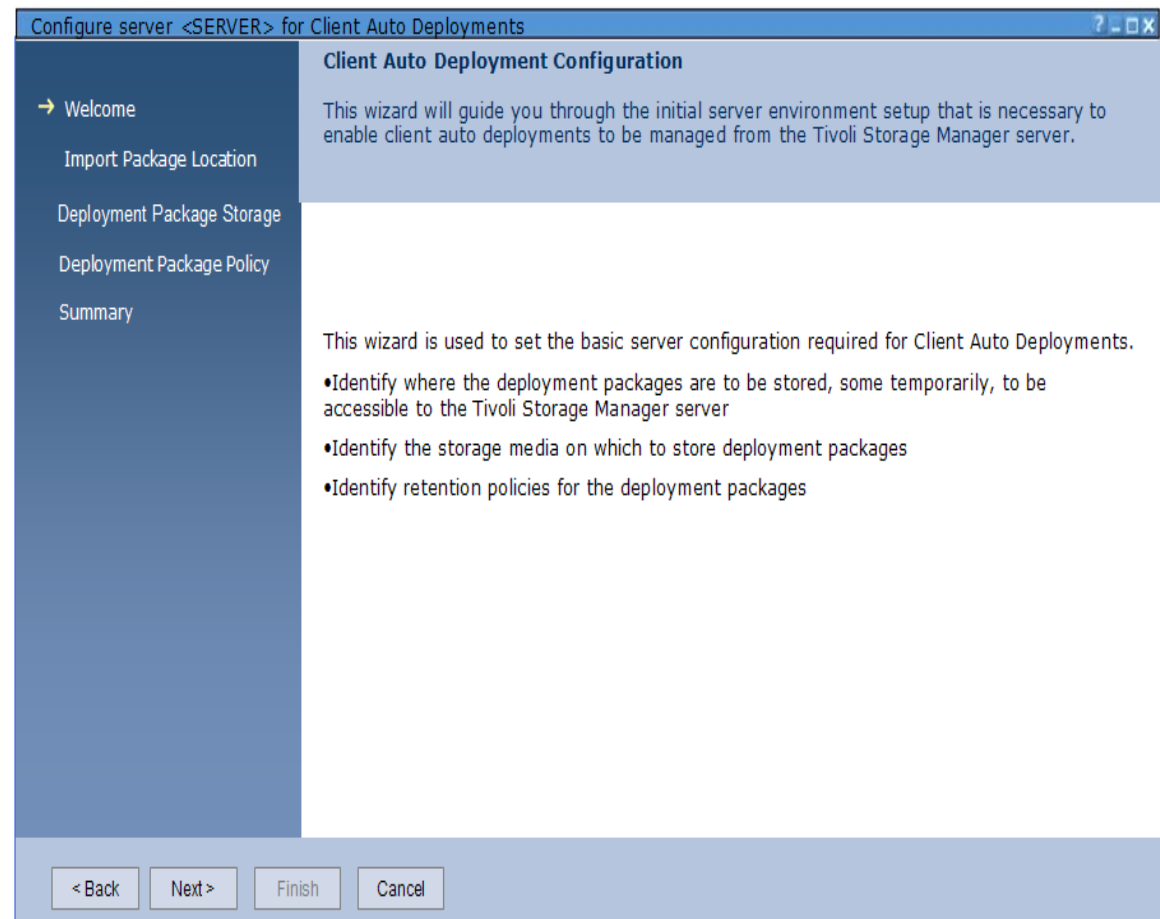
- Updating Windows BA clients is:
 - Less time consuming
 - More reliable
 - Less labor intensive

- ✓ TSM administrator obtains Windows BA client maintenance release from the FTP site.
- ✓ From the Admin Center, the TSM administrator selects a maintenance level to be distributed to a list of existing clients. Define a policy and schedule.
- ✓ The distribution and code updates will run automatically on the clients, based on the predefined policy/schedule.
- ✓ From the Admin Center, the TSM administrator can review the client distribution status.
- ✓ Windows Backup-Archive client maintenance distribution for upgrade from 5.4 or higher to 6.2 or higher.

Client Deployment for Windows BA clients

- Wizard sets the basic server configuration required for Client Auto Deployments.

- Identify where the deployment packages are to be stored
- Identify the storage media on which to store deployment packages
- Identify retention policies for the deployment packages



Client Deployment for Windows BA clients

The screenshot displays two windows from the TSM client deployment management interface. The top window, titled "Manage Client Auto Upgrades for SERVERV62_222", shows the "Status" tab. It includes a "Status" section with instructions on how to view deployment status and a table of schedules. The table has columns for "Select", "Schedule", "Domain Name", "Successful", "Requires attention", "Not completed", and "Unknown". Below the table are "OK", "Apply", and "Cancel" buttons.

The bottom window, titled "Manage Servers", shows the "Deployment Installation Results" tab. It includes a "Deployment Installation Results" section with instructions and a table of deployment details. Below this is a "Summary" section with counts for "Failed", "Successful", "Pending", "Started", and "Successful, but requires attention". At the bottom, there is a "Client Nodes" table with columns for "Client Node Name", "Last Install Status", "TCP/IP Address", "Current Version", "Target Version", and "Last Attempted Install".

Table 1: Schedules (from Manage Client Auto Upgrades)

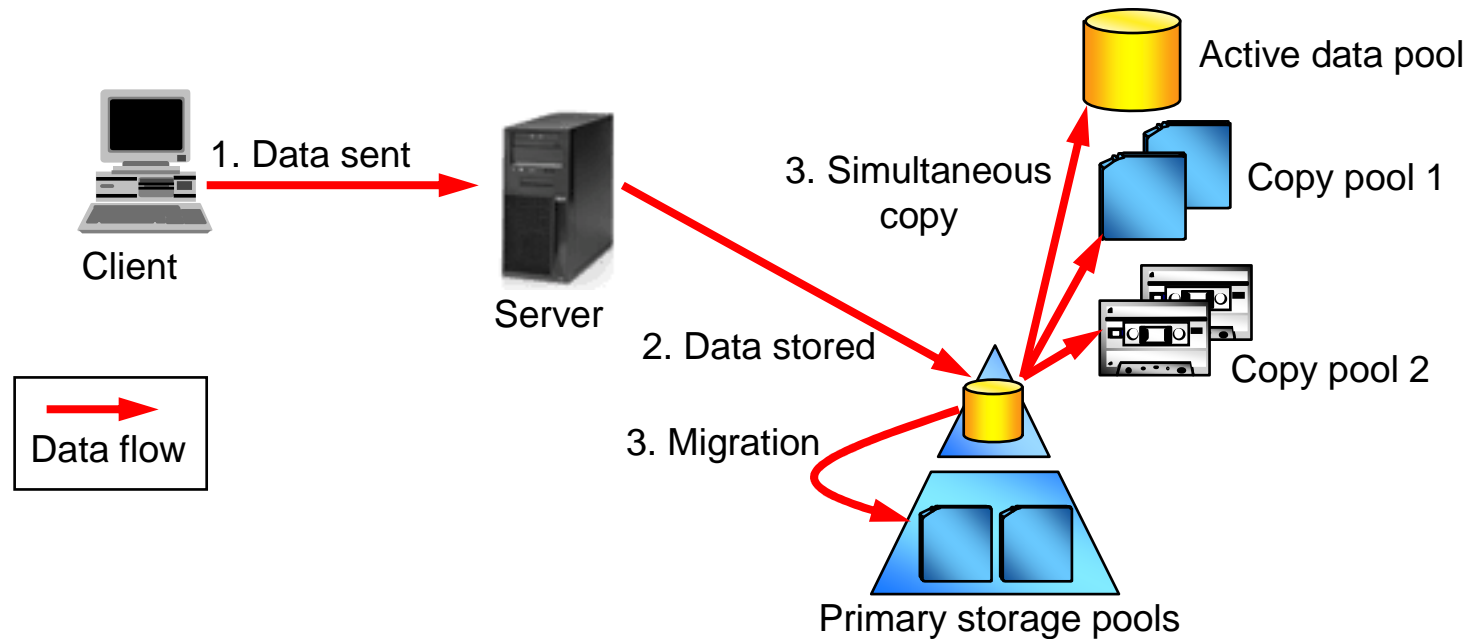
Select	Schedule	Domain Name	Successful	Requires attention	Not completed	Unknown
<input type="radio"/>	SCHED_INC2	JEEDOM	25	20	13	2
<input type="radio"/>	SCHED_SEL1	JEEDOM				
<input type="radio"/>	SCHED_SEL2	JEEDOM				
<input type="radio"/>	SCHED_SEL1	JEEDOM2				
<input type="radio"/>	SCHED_SEL2	JEEDOM2				
<input type="radio"/>	SCHED_INC1	STANDARD				
<input type="radio"/>	SCHED_SEL1	STANDARD				
			Total: 7			

Table 2: Client Nodes (from Manage Servers)

Select	Client Node Name	Last Install Status	TCP/IP Address	Current Version	Target Version	Last Attempted Install
<input type="checkbox"/>	SEL3	Failed	127.0.0.1	5.5.1.0	6.2.0.0	2009-04-15 00:09:02
<input type="checkbox"/>	SEL4	Success	9.11.152.83	6.2.0.0	6.2.0.0	2009-04-15 01:22:15
<input type="checkbox"/>	VMQYER	Pending	9.11.152.17	5.5.0.0	6.2.0.0	2009-04-15 00:10:05

View status of client deployment

Simultaneous Write During Storage Pool Migration



Benefits:

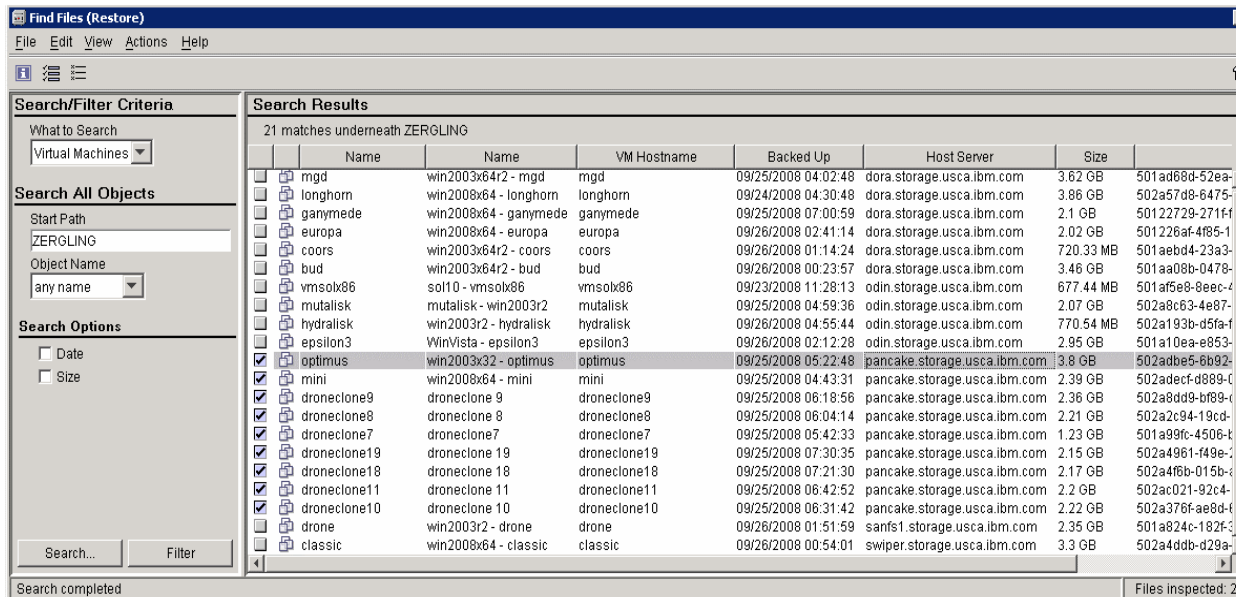
- **Combines windows for migration, storage pool backup, and copy active data**
 - Reduces total time for these operations
 - Frees server resources for other operations
- **Compared to existing simultaneous write function**
 - Reduces the need for tape during client store operations (backup, archive, client HSM)
 - Can reduce client backup window

VMware: Off host backup enhancements

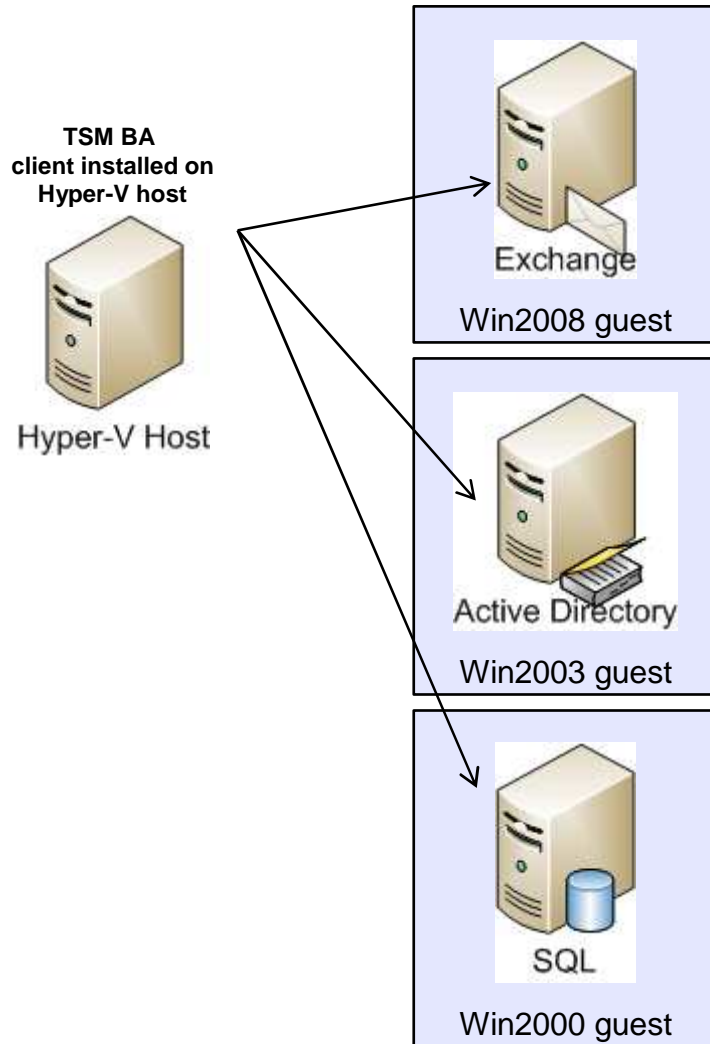
- Auto Discovery of new VM guests
- Leverage vStorage API for Data Protection for file-level backup and recovery
 - LAN-free backup of virtual machines from a centralized proxy server

Benefits:

- Eliminate manual processes for tracking VM guests
- Low impact backup and recovery



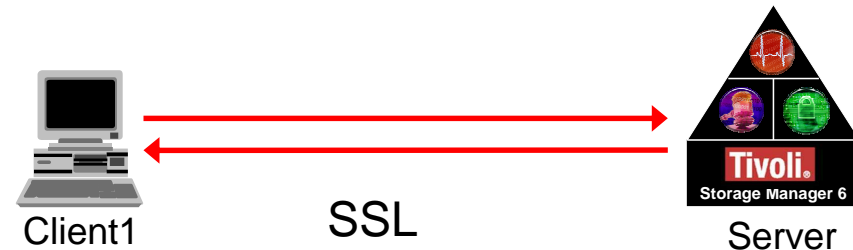
Microsoft Hyper V guest backup using Volume Shadow Copy Services (VSS)



- Full snapshot backup of guest machine
- Snapshots synchronized with applications and file systems inside guests with VSS

In-flight data encryption using SSL

- Extended platform support
 - Linux
 - Solaris
 - HP-UX
 - Available in TSM 5.5: Windows, AIX



Benefits:

- Secure data transmission between client and server
- 256-bit AES encryption for in-flight data
- Compatible with TSM server- or client-side deduplication
- Simplified deployment and validation of TSM server certificates

Other Key Enhancements

- More efficient backup of very large SAP databases ([TSM for ERP v6.2](#))
 - Break up extremely large SAP DB2 database objects into multiple smaller objects
 - More flexibility on server side maintenance tasks (e.g. backup storage pool operations); can now be interrupted without being required to start all over again
- Progressive-incremental backup of Windows System Writer
 - Addresses the explosive growth of System State data, especially in large organizations
 - Performance improvement for Windows 2008 customers doing system state backups
- Support devices via the SCSI pass-through interface on Windows
 - Helps comply with security policies that allow only signed drivers
 - Only need to install the Windows native device driver once; the same driver will work with any version of TSM 6.x and later
 - The Windows native driver will automatically claim all devices it supports; no need to manually update driver for each device through Device Manager



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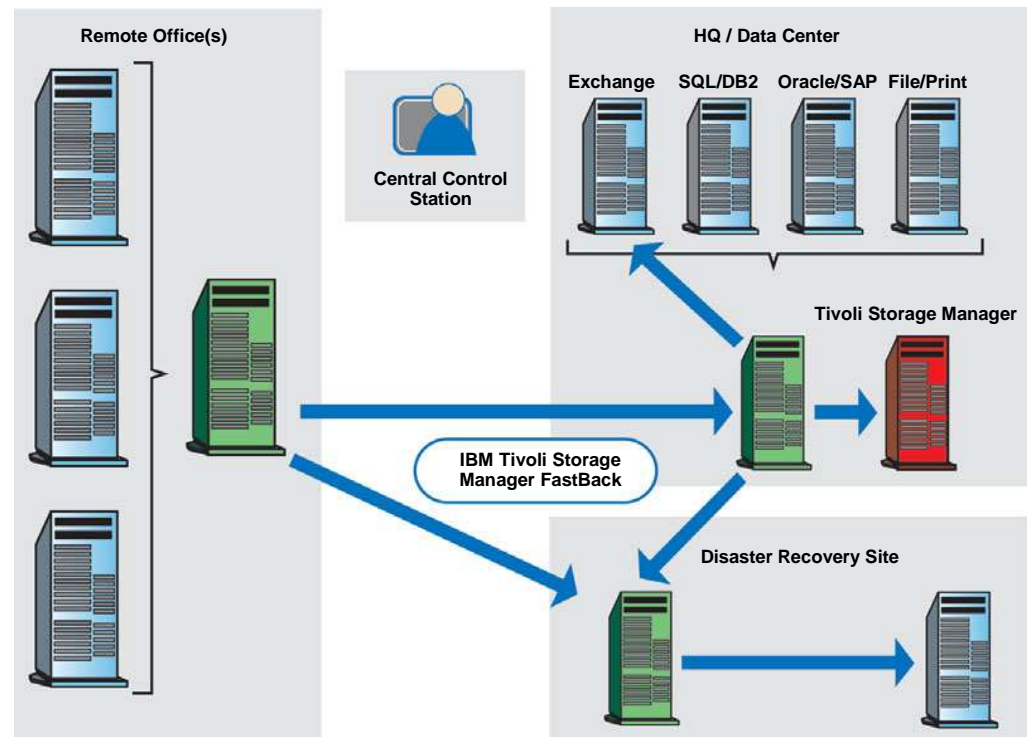
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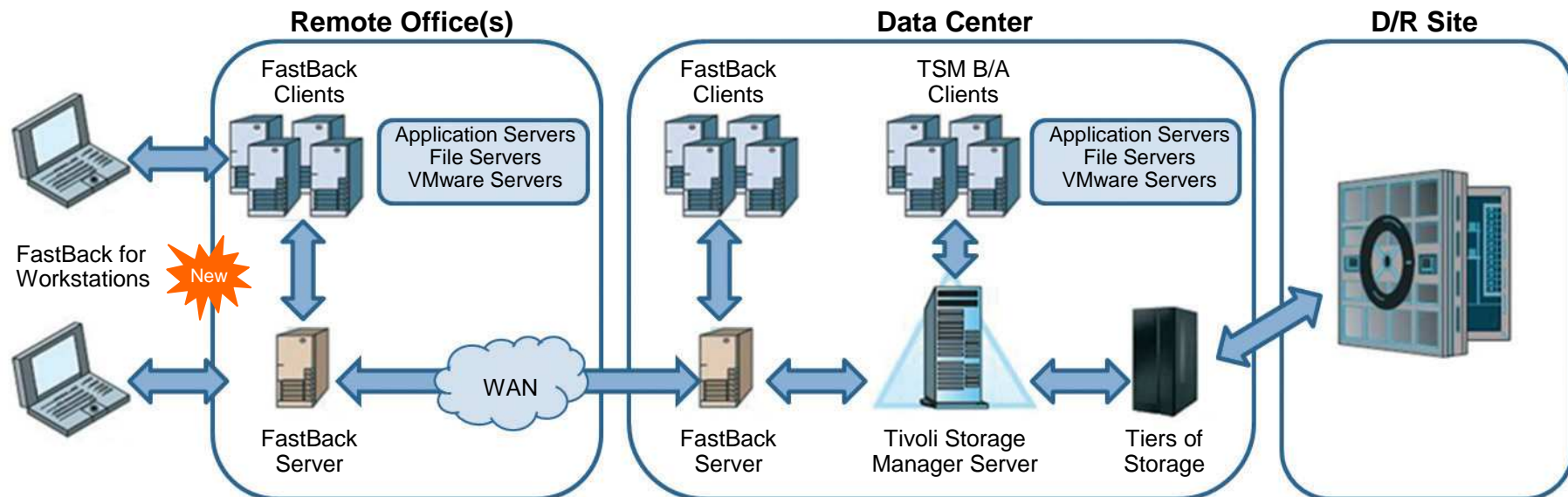
Tivoli Storage Manager
FastBack for Workstations v6.1

Introducing Tivoli Storage Manager FastBack v6.1

- Block-level, incremental-forever, continuous or scheduled backup for Windows and Linux  servers
- Near-instant restore of any type / amount of Windows application data
 - Near-instant access to Linux data via FastBack Mount 
- Integrated target-side data deduplication 
- Built-in 'selective replication'
- Comprehensive reporting, leverages Tivoli Common Reporting
- Tight integration with Tivoli Storage Manager 
- TSM FastBack for Workstations: optional protection for laptops & desktops 



TSM FastBack is part of IBM's Unified Recovery Management solution suite



- **Tivoli Storage Manager:** enterprise-class data management includes backup, archive, HSM, support for hundreds of devices and a broad range of operating systems
- **Tivoli Storage Manager FastBack:** next-generation backup and near-instant restore for critical servers; backup consolidation & disaster recovery for remote offices; and more ...
- **Tivoli Storage Manager FastBack for Workstations:** continuous data protection (CDP) for desktop and laptop systems with centralized management

TSM FastBack for Microsoft Exchange v6.1

- Granular restore of individual MS-Exchange objects:

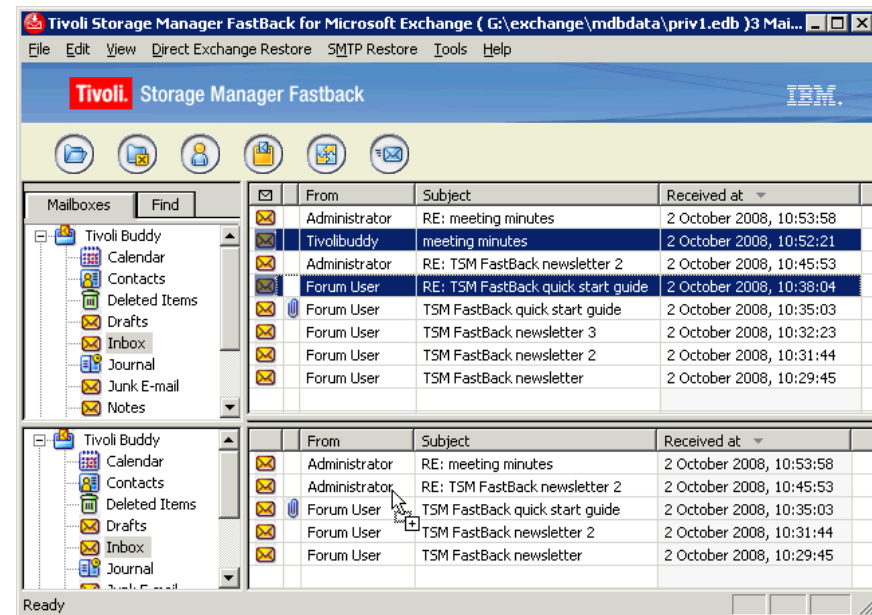
- Messages
- Attachments
- Calendar entries
- Contacts
- Notes
- Tasks
- Journal entries

- Supports Shared / Public Folders



- Supports Exchange 2003 & 2007

- TSM FastBack v6.1 provides volume-level recovery of Exchange 2010 today



IBM Internal Keyplays

<p>Driving More Business from More Customers</p> <p>Accelerate customer acquisition by 100% and hence adding 500 new Tivoli Storage Manager clients to the Installed base in 2010</p>
<p>Accelerate the adoption of Storage Terabyte Model</p> <p>New TB model version: Double capping. Targets non willing TB customer</p> <p>Sell compliance insurance: Airbag, (Employee based)</p>
<p>Establish Tivoli Storage as the key supplier of Storage Software within the SaaS market</p> <p>Partner with 50 new XSP providers in 2 years</p>
<p>Storage Volume Play</p>

xx MUSD
xx MUSD
xx MUSD
xx MUSD

Backup as a Service

Establish Tivoli as the Key Supplier of Storage Software within the SaaS Market...

- Expand danish Pilot
 - +25 XSP signed up on TSM
 - +2.000 Clients is served through these partners using TSM
 - 60-70% of the accounts has been competitive take outs
 - 50-66% of the Danish GB Tivoli Storage Transactional Business is today comming from these partners
 - Excellent play for GB accounts and divisional servers at large accounts
 - 2.5 Mill USD in GB and 5 Mill in Total transactional storage revenue from this play in Denmark durring the past 2½ year
 - Excellent play in tough economic times



BackupMigrator



BMAApp AnalysisEngine™ Customer XYZ

Sample Output

SOURCE NetBackup Environment

Source NetBackup Architecture

- Existing environment based on a single NBU Master Server per physical data center
- Multiple media servers to allow backup of mixed Operating Systems
- Master Server technology based on SUN SPARC architecture
- Tape libraries in each site are IBM 3584 with a mix of LTO2 and LTO3 generation tape drives.
- Primary and robotic tape pools are used for media and file protection
- Extensive use of NDMP backups for NetApp file data
- NetBackup code version 5.1 release date May 2004
- FULL backup methodology and policy enforced throughout the environment
- Some differential image backups
- 47 NBU Master Servers addressing a total of 811 clients
- Data retention policy varied from 1 week to infinity. No standard offering is created.

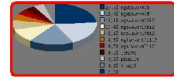
Source Storage Architecture

- Tape architecture is based around DLT, LTO2 and LTO3 tape media. There are a number of DLT media volumes but no associated drives.
- LTO2 is the main media for DR volumes totalling 8100 vault slots
- Total Tape volume count is 13983
- Total Environment data occupancy 1.5PB

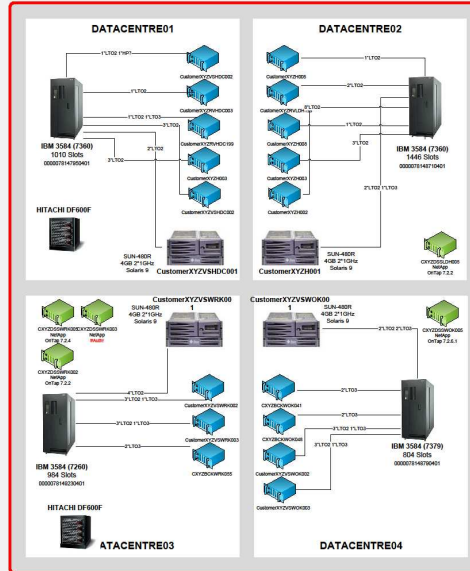
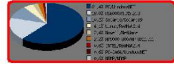
Backup Server Details

Hostname	IP Address
CustomerXYZsw001 CustomerXYZ.net	192.168.1.8
CustomerXYZsw002 CustomerXYZ.net	192.168.193.3
CustomerXYZsw0014 CustomerXYZ.net	192.168.1.83
CustomerXYZsw0013 CustomerXYZ.net	192.168.79.2
CustomerXYZsw001 CustomerXYZ.net	192.168.2.31
CustomerXYZsw0016 CustomerXYZ.net	192.168.2.131
CustomerXYZsw00110 CustomerXYZ.net	192.168.79.2
CustomerXYZsw0020 CustomerXYZ.net	192.168.79.2
CustomerXYZsw014 CustomerXYZ.net	192.168.2.182
CustomerXYZsw013 CustomerXYZ.net	192.168.79.58
CustomerXYZsw012 CustomerXYZ.net	192.168.79.84
CustomerXYZsw011 CustomerXYZ.net	192.168.2.82
CustomerXYZsw004 CustomerXYZ.net	192.161.2.135
CustomerXYZsw003 CustomerXYZ.net	192.161.79.88
CustomerXYZsw002 CustomerXYZ.net	192.161.79.57
CustomerXYZsw001 CustomerXYZ.net	192.161.2.25

Top 10 Migration Sources by Volume

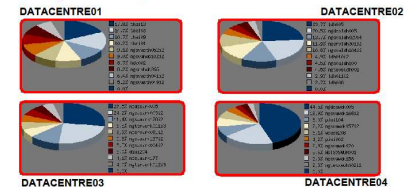


Top 10 Migration Sources by OS



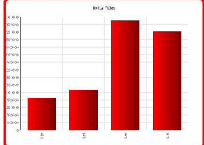
Capacity Metrics

Top 10 Migration Sources by Data Volume

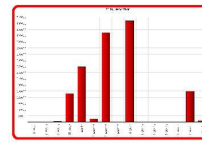
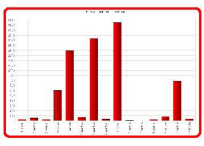
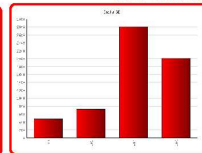


Daily Summary

DAILY FILE COUNT



DAILY GB VOLUME



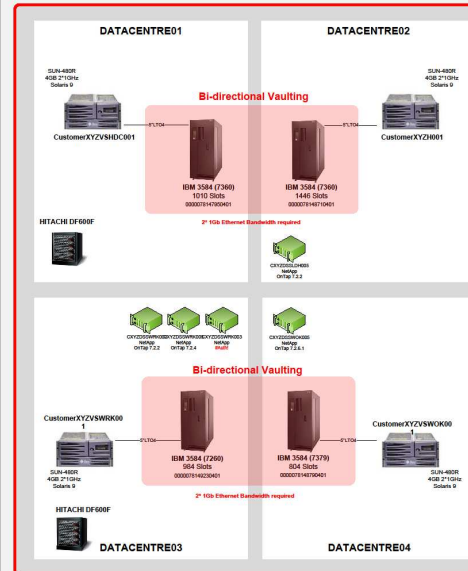
1. Information about the "source" environment

- NetBackup architecture and details
- Storage architecture and details
- Source volumes
- Source OS's
- Storage capacity by datacenter
- Daily file count
- Daily GB's protected



2. Suggested “target” environment

- **Server infrastructure**
- **TSM architecture**
- **Tape Library / Media infrastructure**
- **Architectural changes needed, including REUSE as much as possible**
- **Operational issues by datacenter including**
 - **Bad drives needing replacement**
 - **Frozen tape cartridges**
 - **Orphaned data...**



TARGET TSM Environment

Proposed Target Architecture

Server Infrastructure

- Single physical server infrastructure at each datacenter
- Multiple TSM Server instances defined on usage
- NDMP data backup to dedicated TSM instance to ensure performance and scalability for unstructured data backup and recovery
- TSM Library sharing between instances within datacenter
- TSM Library sharing between instances between datacenters
- Existing server topology can be reused if required although ideally replaced with IBM AIX platforms

TSM Software Design

- TSM v6 to be used as the management server
- TSM Incremental backup methodology to be applied
- NDMP TOC to be used to provide single file restore from the NDMP images for unstructured data
- TSM Electronic vaulting to be used, by the use of IBM Tape library sharing (subject to inter-site capability)
- Removal of offsite tape vault

Tape Library/Media Infrastructure

- Existing library chassis to be reused in the target environment
- Library management to be completed by TSM v6
- Library sharing to be used to allow automated, electronic vaulting
- Tape technology to be replaced with LTO4 drives and Media providing higher performance and capability
- LTO4 technology to be harnessed to provide data compaction and reduction in slot usage-providing scalability
- LTO4 data compaction and incremental backup means all data can reside within library infrastructure
- POSSIBLE use of VTL technology to provide de-duplication and consolidation of data
- Total removal of Manual Vaulting

Architectural Changes

- Backup instances to be aligned to usage- dedicated infrastructure to provide backup and recovery of unstructured file data
- Vaulting to be automated and kept within datacenters
- Incremental backup methodology to reduce network/SAN load and data occupancy by 50%
- TOC allowing single file recovery from NDMP image
- REUSE Server infrastructure
- REUSE Library infrastructure
- Procurement of Tivoli Software and LTO4 tape drives
- Enablement of inter-site network bandwidth
- POSSIBLE replacement of DF600F with DSAK arrays

Operational Issues

DATACENTRE03

- 2 New drives in library SN: 1110022424 and 1110233248 unused and need to be added to NBU drive database
- 3 Replaced drives missing from NBU configuration: Drive01, Drive02, Drive17, Drive18
- 3 Offsite volumes in DATACENTRE03 Library
- 29 FROZEN Tape Cartridges
- 600 Database Backup volumes stored in Datastore
- 20 Media errors in the last 6 weeks
- 0% WAIT IO on processor sample suggesting disk performance issues
- Authentication issues on CXYZSSWRK03

DATACENTRE04

- Drive05, Drive14, Drive15 and Drive16 are non-shared but configured on multiple servers
- Drive25 and Drive26 are missing from the configuration
- LTO2 and LTO3 offsite storage units
- 26 FROZEN Tape Cartridges
- Only 2 Database Backups can be found

DATACENTRE02

- Drive12 missing from configuration
- Approx 100 DLT cartridges in library
- Repetitive tape media errors on the same cartridges
- Not capitalized on LTO3 data capacity and density
- 41 FROZEN Tape cartridges

HINCKLEY

- Hitachi disk extensions not installed
- NO NDMP usage in Hinkley
- Drive13 missing from configuration
- A HP vendor drive appears in the L3584 library

BMAApp MigrationEngine™ ScreenShots



3. Justification / Savings using TSM

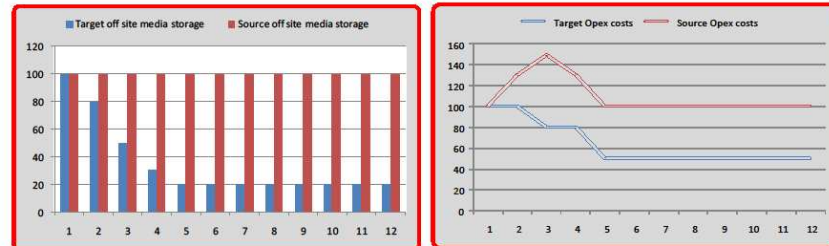
- Reduction in hardware infrastructure needed
- Software cost differential
- Management summary and ROI

BMApp Differential Business Case

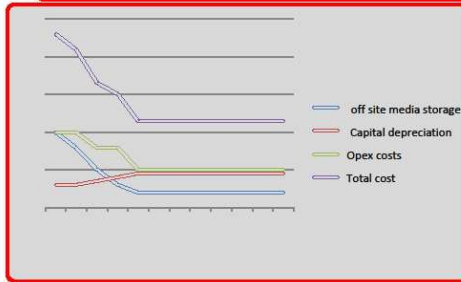
Deployment Differential

Source Deployment						Target Deployment							
Location	Media	Capacity	Count	Power	Value	Location	Media	Capacity	Count	Power	Value		
WARWICK	IBM	3584	1	964	1.6	782x1212	WARWICK	IBM	TS3500	1	964	1.6	782x1212
WARWICK	IBM	LTO2	10	200GB	1		WARWICK	IBM	LTO4	5	800GB	1.6	
WARWICK	IBM	LTO3	4	400GB	0.4		WARWICK	HP	DF600F	1			
WARWICK	HP	DF600F	1				WARWICK	SUN	480R	1			
WARWICK	SUN	480R	1				WARWICK	IBM	TSM_LIC	1			
WARWICK	MEDIA	SRVR	3				WOKINGHAM	IBM	TS3500	1	804	1.6	782x1212
WARWICK	DYMANTEC	NBU_LIC	1				WOKINGHAM	IBM	LTO4	5	800GB	1.6	
WOKINGHAM	IBM	3584	1	804	1.6	782x1212	WOKINGHAM	IBM	TSM_LIC	1			
WOKINGHAM	IBM	LTO2	8	200GB	0.8		WOKINGHAM	SUN	480R	1			
WOKINGHAM	IBM	LTO3	8	400GB	0.8		WOKINGHAM	IBM	LTO4	5	800GB	1.6	
WOKINGHAM	SUN	480R	1				HINLEY	IBM	TS3500	1	1010	1.6	782x1212
WOKINGHAM	MEDIA	SRVR	4				HINLEY	IBM	LTO4	5	800GB	1.6	
WOKINGHAM	DYMANTEC	NBU_LIC	1				HINLEY	HP	DF600F	1			
HINLEY	IBM	3584	1	1010	1.6	782x1212	HINLEY	IBM	TSM_LIC	1			
HINLEY	IBM	LTO2	11	200GB	1.1		LEICESTER	IBM	TS3500	1	1445	1.6	782x1212
HINLEY	IBM	LTO3	8	400GB	0.8		LEICESTER	IBM	LTO4	5	800GB	1.6	
HINLEY	HP	DF600F	1				LEICESTER	IBM	TSM_LIC	1			
HINLEY	MEDIA	SRVR	5										
HINLEY	DYMANTEC	NBU_LIC	1										
LEICESTER	IBM	3584	1	1445	1.6	782x1212							
LEICESTER	IBM	LTO2	17	200GB	1.7								
LEICESTER	IBM	LTO3	3	400GB	0.3								
LEICESTER	HP	DLT	1										
LEICESTER	MEDIA	SRVR	5										
LEICESTER	DYMANTEC	NBU_LIC	1										

Commercial Differential



Transformation Business Case



Management Summary

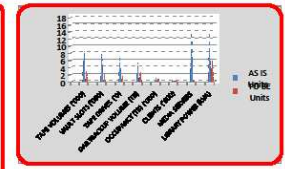
- Total removal of manual vaulting
- Total slot usage reduction by 8903 slots
- DATACENTRE01
- DATACENTRE02
- DATACENTRE03
- DATACENTRE04
- Datacenter power savings: 5 kVA
- Data volume reduction: 2411 GB by the use of Incremental backup
- NDMP backup performance improvement by XX:XX hours
- Drives consolidated on to 5 * LTO4 drives per site
- Tivoli Storage Manager v6.1 to replace NetBackup 5.1 environment
- Re-use of existing library TS3500 infrastructure
- Tape consolidation using IBM LTO4 tape drives

Technical Migration Justification

- Reduction of data volumes by the use of Incremental backup
- Reduction of slot count within datacenter with improved Tape technology
- Reduction of slot count within data vaults with improved Tape technology
- Removal of manual vaulting with the use of TSM incremental storage pool backup
- Vaulting kept within libraries to improve DR performance
- No increase in slot count required based on improved media density
- Improvement in backup and recovery duration
- Increased management efficiency by system consolidation

TCO Reduction based on a 12 Month P&L impact analysis

ELEMENT	AS IS Units	COST £ UKP	TO BE Units	COST £ UKP	SAVINGS £ UKP
TAPE VOLUMES	11903	input value	3000	input value	!VALUE
VAULT SLOTS	8100	input value	2000	input value	!VALUE
TAPE DRIVES	70	input value	20	input value	!VALUE
DAILYBACKUP VOLUME (GB)	6026	input value	3615	input value	!VALUE
OCCUPANCY (TB)	1505	input value	input value	input value	!VALUE
CLIENTS	51	input value	input value	input value	!VALUE
MEDIA SERVERS	17	input value	0	input value	!VALUE
LIBRARY POWER (kVA)	13.4	input value	8.4	input value	!VALUE
TCO REDUCTION		!VALUE		!VALUE	!VALUE



Backup

IBM Tivoli Storage FlashCopy Manager - Summary

Online, near-instant snapshot backup and restore of critical business applications

Overview

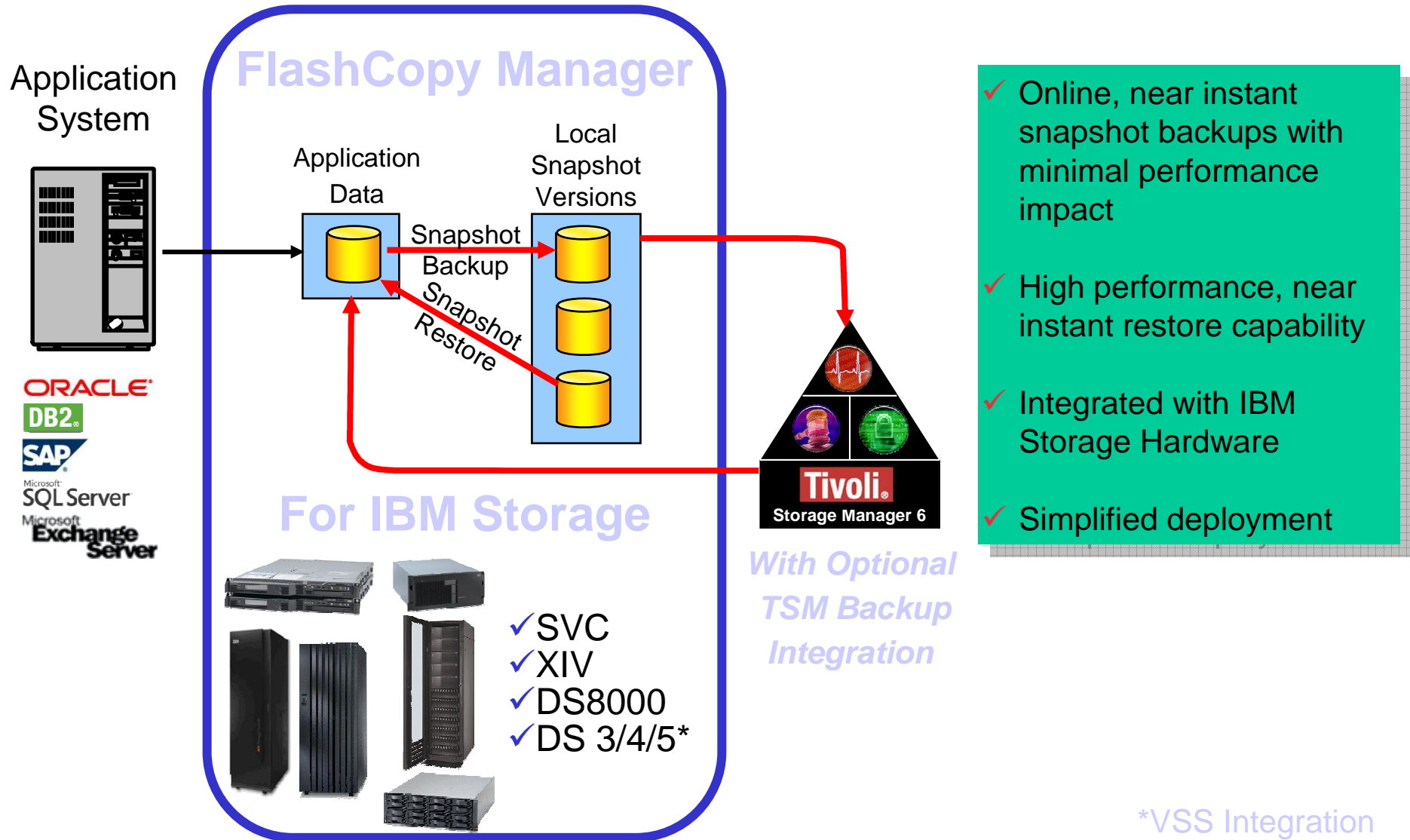
Enables organizations to perform and manage frequent, near-instant, non-disruptive, application-aware backups and restores, leveraging advanced snapshot technologies in IBM storage systems; supports DB2®, SAP, Oracle, Exchange and SQL



Highlights

- Perform near-instant **application-aware snapshot backups**, with minimal performance impact for IBM DB2, Oracle, SAP, Microsoft SQL Server and Exchange
- **Improve application availability** and service levels through high-performance, near-instant restore capabilities that **reduce downtime**
- Integrate with IBM System Storage DS8000, IBM System Storage SAN Volume Controller and IBM XIV Storage System on AIX and Microsoft Windows.
- Protect applications on IBM System Storage DS3000, DS4000 and DS5000 on Windows using VSS
- Satisfy advanced data protection and data reduction needs with optional integration with IBM Tivoli Storage Manager.

Solution Overview



Pricing

IBM Tivoli Storage FlashCopy Manager:

- Capacity Based Pricing
 - Price per protected TB
 - Follows same tiered model as SVC
 - Customer pays for each tier incrementally
- **Orderable in PPA and AAS**
- **HW and SW seller will get compensated**
- New tools to help administrators reduce guesswork
 - Query current managed capacity from command line or Data Protection GUI
 - Query historical managed capacity from the MMC snap-in

Proposed Pricing

Component (per TB)	Price* (Euro)
Data 0-12	800
Data 13-32	672
Data 33-64	488
Data 65-100	368
Data 101-250	312
Data 251+	248