

Terabyte Restore in Minuten

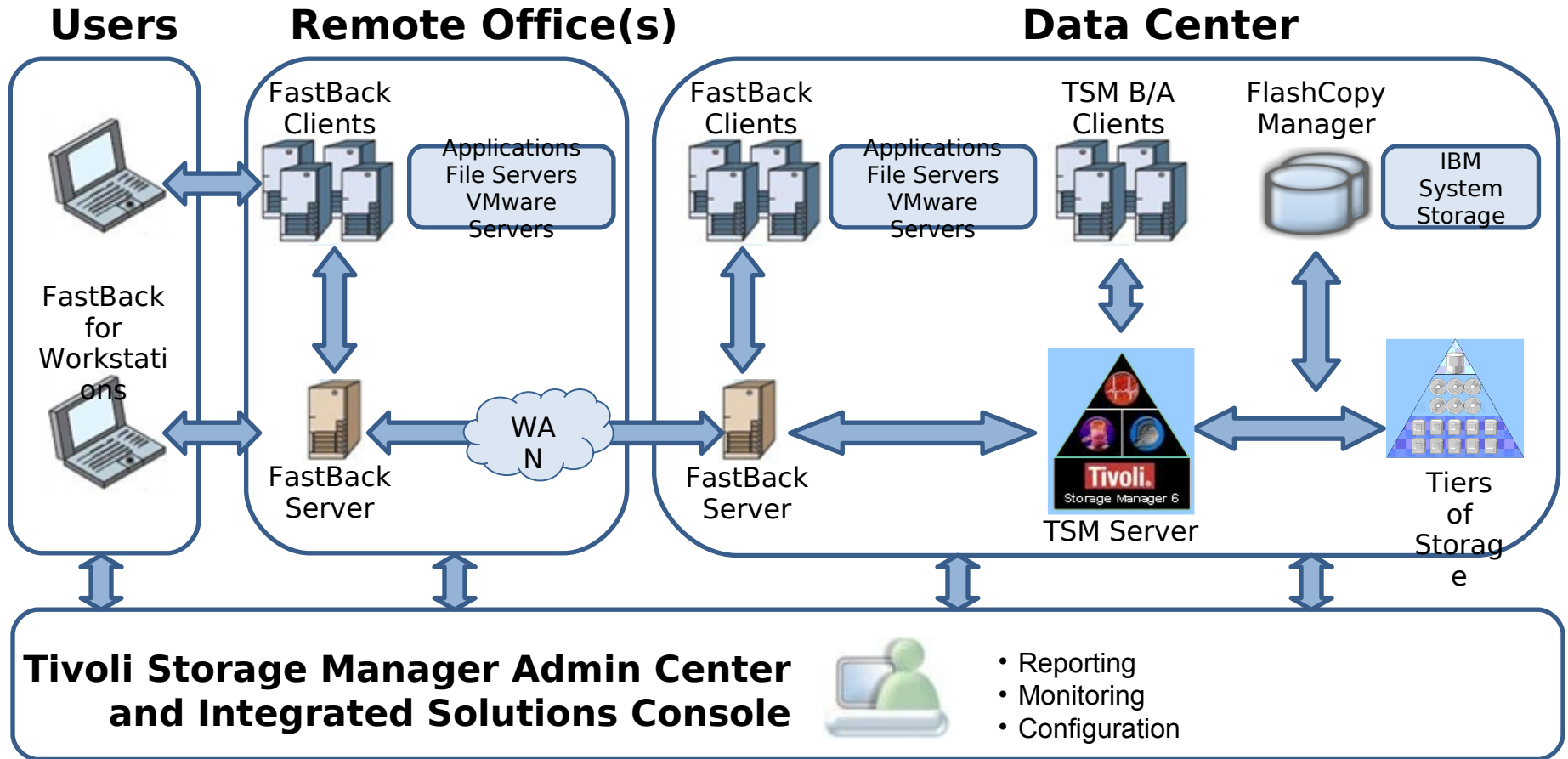
Neuigkeiten bei TSM Fastback V6.1



Agenda

- TSM Fastback Übersicht
- TSM Fastback Neuigkeiten bei Version 6.1

Unified Recovery Management with Tivoli Storage Manager

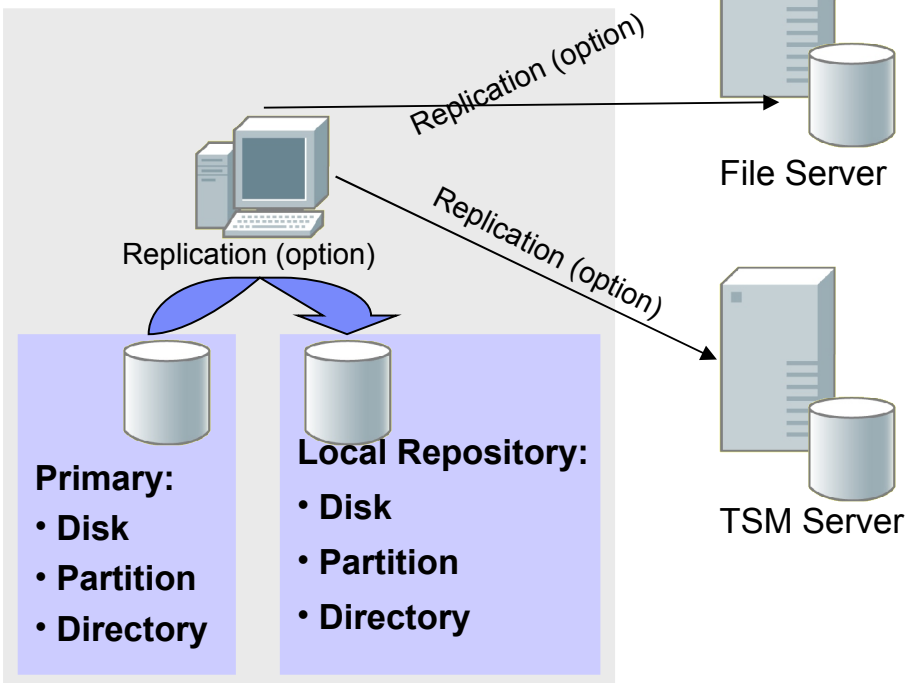


“TSM is the granddaddy of unified recovery management”
-- Lauren Whitehouse, ESG

TSM Fastback for Workstations



Fastback for Workstations = ehem. Produkt “Continuous Data Protection for Files“




IBM TSM Fastback for Workstations unsichtbare Daten-Replikation in Echt-Zeit

- Automatische kontinuierliche Sicherung wichtiger Dateien ohne Zutun des Benutzers
- Kein scheduling, keine Bänder, kinderleicht und einfach, ohne Aufwand, sofortiger Einsatz.
- Wenn eine Datei gesichert wird...
Wird eine Kopie auf der lokalen Disk abgelegt
Weitere Kopie kann auf Fileserver abgelegt werden
Weitere Kopie kann an TSM geschickt werden

Archive Retention: einfacher manipulierungs-resistenter Daten-Safe.

- Hebt Daten für einen vordefinierten Zeitraum auf und gewährleistet die Unveränderbarkeit.
- Einfachste Konfiguration – kein Aufwand.

IBM Tivoli Storage Manager FastBack for Workstations

- Changing the current CDP for files offering
 - CDP for Files 25 pack
 - **Becomes TSM FastBack for Workstations**
 - Available as a 25 pack 
 - **Central Management Console**
 - Enterprise class laptop / desktop protection offering
 - Manage Thousands of FastBack for workstation clients
 - CDP for Files Starter Edition
 - No changes
 - No central Management

Central Administration: View Client Information

View Client Information:

- Amt of storage being used
- Amt of client activity
- Current configuration running
- 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

The screenshot displays the Integrated Solutions Console interface in Mozilla Firefox. The browser address bar shows the URL: <https://9.1.80.77:9043/bm/console/login.do?action=secure>. The console title is "Integrated Solutions Console - Welcome bill".

The left sidebar contains a navigation menu with the following items:

- View: All tasks
- Welcome
- My Startup Pages
- Security
- Troubleshooting
- Tivoli Storage Manager
- Tivoli Common Reporting
- CDP Central Admin
 - Getting Started
 - Locations
 - Clients
 - Configurations
 - Commands
 - Alerts
- Settings

A blue arrow points from the "Clients" link in the sidebar to the main content area. Below the arrow, the text reads: "TSM and Central Administration for FastBack for Workstations in one console".

The main content area is titled "Clients" and contains a table with the following columns: Name, Location, Configuration, Storage Used, Storage Free, and Last Update. The table lists 20 clients, all with "server1" as the location and "default" as the configuration. The "Storage Used" and "Storage Free" columns show 0 for all clients. The "Last Update" column shows various dates and times.

Name	Location	Configuration	Storage Used	Storage Free	Last Update
<input type="checkbox"/> Aaliyah	server1	default	0	0	12/1/08 1:44 PM
<input type="checkbox"/> Aaron	server1	default	0	0	8/4/08 2:44 PM
<input type="checkbox"/> Abby	server1	default	0	0	12/1/08 1:44 PM
<input type="checkbox"/> Abel	server1	default	0	0	1/19/09 1:44 PM
<input type="checkbox"/> Abigail	server1	default	0	0	9/26/08 2:44 PM
<input type="checkbox"/> Abraham	server1	default	0	0	1/8/09 1:44 PM
<input type="checkbox"/> Abril	server1	default	0	0	10/9/08 2:44 PM
<input type="checkbox"/> Adam	server1	default	0	0	6/26/08 2:44 PM
<input type="checkbox"/> Adan	server1	default	0	0	12/22/08 1:44 PM
<input type="checkbox"/> Addison	server1	default	0	0	6/19/08 2:44 PM
<input type="checkbox"/> Addyson	server1	default	0	0	4/13/08 2:44 PM
<input type="checkbox"/> Adeline	server1	default	0	0	10/20/08 2:44 PM
<input type="checkbox"/> Aden	server1	default	0	0	9/1/08 2:44 PM
<input type="checkbox"/> Adrian	server1	default	0	0	9/1/08 2:44 PM
<input type="checkbox"/> Adriana	server1	default	0	0	10/3/08 2:44 PM
<input type="checkbox"/> Adrianna	server1	default	0	0	3/8/08 1:44 PM
<input type="checkbox"/> Aidan	server1	default	0	0	4/28/08 2:44 PM
<input type="checkbox"/> Aiden	server1	default	0	0	7/5/08 2:44 PM
<input type="checkbox"/> Alaina	server1	default	0	0	11/21/08 1:44 PM
<input type="checkbox"/> Alan	server1	default	0	0	6/25/08 2:44 PM

Central Administration: View Client Storage Information

FastBack for Workstations 6.x
2H 2009

View Client information on storage targets and configurations:

- Centralized client configurations
- Centralize ability to run commands against a client
- Understand which clients are big storage users and control them

The screenshot shows the Integrated Solutions Console (ISC) interface in Mozilla Firefox. The main content area displays the 'Locations' page, which contains a table of storage locations. The table has three columns: Name, Configuration, and Address. The data is as follows:

Name	Configuration	Address
server1	default	c:\drv\cdp
tserver2	default	c:\drv\cdp
zserver3	default	c:\drv\cdp

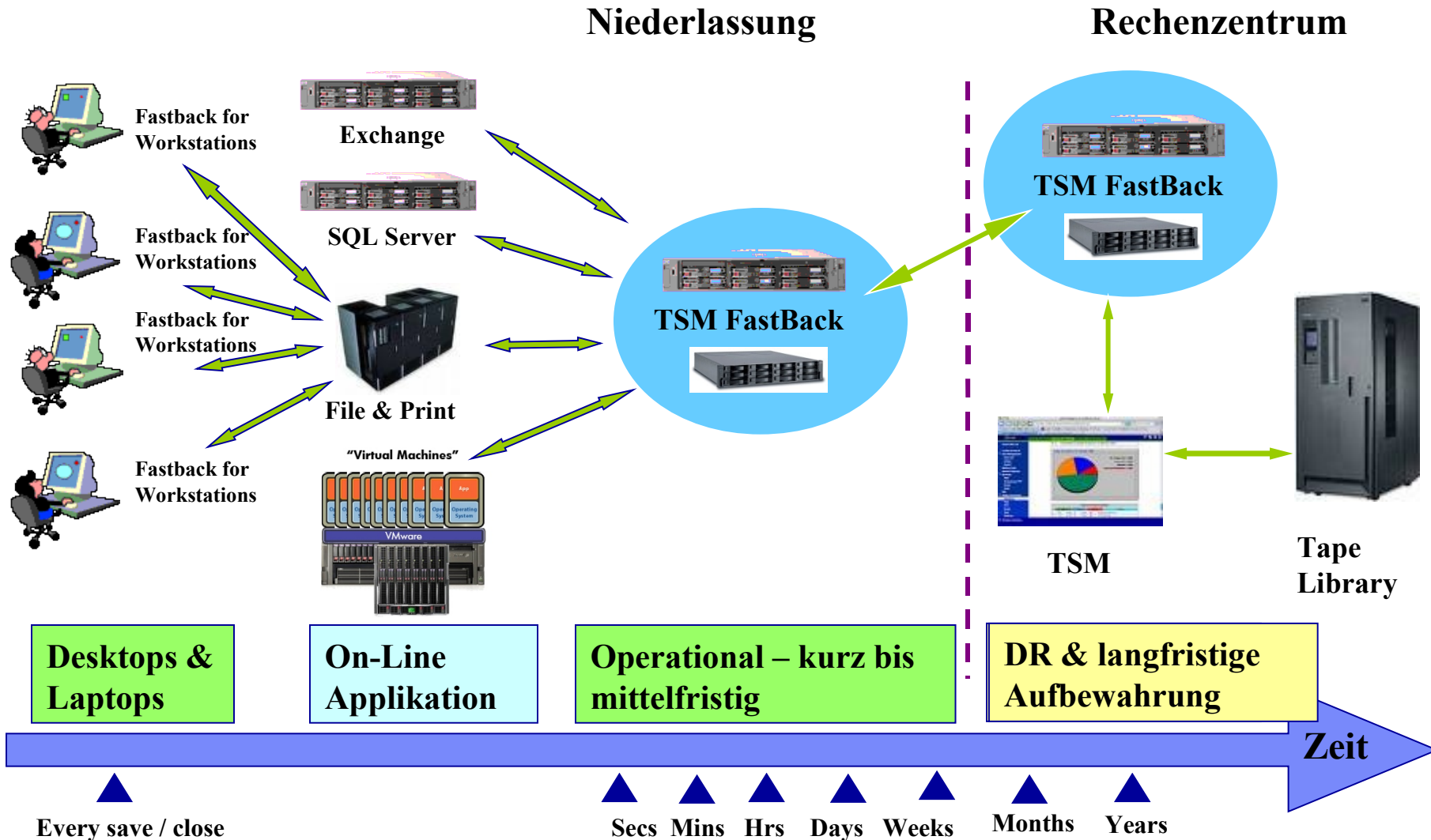
TSM FastBack for Workstations Roadmap

Current Attributes	2H 09	2010-2011
<p>CDP for Files 3.1 GA 4/24/07</p> <ul style="list-style-type: none"> •Real-time, continuous data protection solution for laptop desktop protection •Capture every save of a file when it occurs •Runs transparently in the background with a light footprint. •For off machine protection can target web, file server, NAS device, USB, Tivoli Storage Manager), 	<p>Fastback for Workstations 6.x</p> <ul style="list-style-type: none"> •FastBack for Workstations Central Management: <ul style="list-style-type: none"> • An administrative portal to group and manage many CDP clients, provides client log file viewing and alerting •CDP for Files renamed to FastBack for Workstations 	<p>Future consideration</p> <ul style="list-style-type: none"> •Intelligent Bandwidth throttling <ul style="list-style-type: none"> • Detect available bandwidth and throttle accordingly. Efficient use of bandwidth

TSM Fastback



“The Big Picture” - Integration TSM Fastback und TSM EE



TSM FastBack Produktkomponenten

1. FastBack Server und FastBack Client

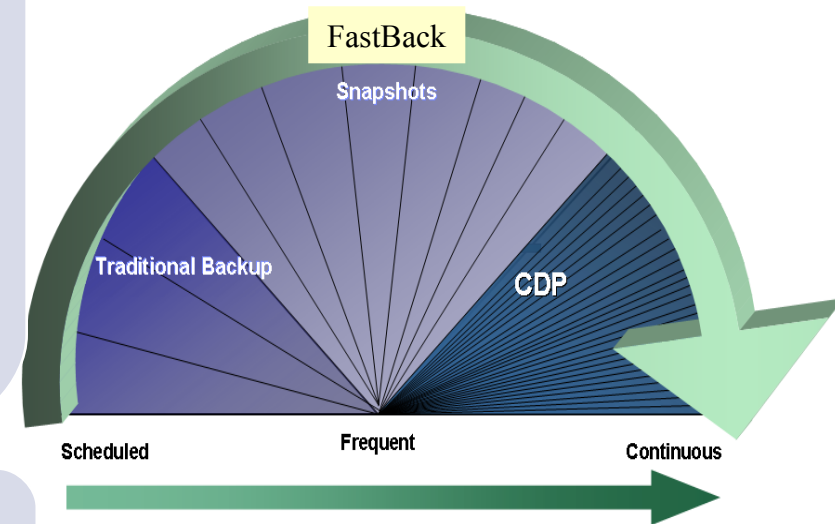
- Einheitliches Sicherungsverfahren für Windows Server
- Disk-basiert, block-level, incremental-forever Technologie
- Sicherungshäufigkeit wählbar bis hin zu CDP(*)
- Datenverfügbarkeit schon während des Restore
- Regel-basierte “selektive Replikation” in zweite Lokation für DR
- Integration in Exchange und MS-SQL

2. FastBack Exchange Restore

- Exchange “Item level recovery” (beliebige e-mail Objekte: message, attachment, calendar entry, contact, tasks, notes)

3. FastBack Bare Machine Recovery

- Restore des Betriebssystems aus dem Snapshot auch auf heterogene HW mit konfektionierter Boot-CD



(*)CDP= Continuous Data Protection
 Jeder geänderte Block wird sofort gesichert

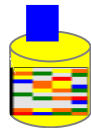
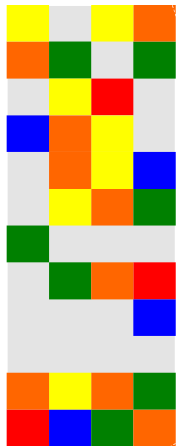
TSM FastBack Volume Snapshot Technologie – Block-level Incremental Forever

Production

Disk

Applikations- oder Fileserver

TSM FastBack Server



Durch die Bandbreiten-effiziente Datenübertragung werden häufige Snapshots und CDP praktikierbar.

Geringer Einfluß auf den Produktionsserver oder das Netzwerk

Inkrementelles Blocklevel Backup wird sowohl für die Sicherung von Anwendungen wie auch von Files verwendet.

Exzellente Performance

- Beim Snapshot wird immer das ganze Volume gesichert
- Der erste Snapshot ist ein “full volume” Snapshot
- Folge-Snapshots werden “inkrementell” erzeugt
- Nur jene Blöcke werden übertragen und gesichert, die sich seit dem letzten Snapshot geändert haben.

TSM FastBack Restore – 2 Varianten zu Auswahl

Volume-Level-Restore

1 Anwendungs- oder Fileserver (FastBack-Client) FastBack Server

FastBack-Server Admin startet Volume Restore

RTO: Daten sind durch „Instant Restore Feature“ sofort verfügbar während der Restore-Prozess noch läuft.

RPO: Von jedem Snapshot und jedem CDP Zeitpunkt möglich.

File-Level-Restore

2 Anwendungs- oder Fileserver (FastBack Client) FastBack Server

Anwendungs-Admin allokiert mit FastBack-Mount den Snapshot als Virtual-Volume an den Anwendungsserver zur Einzeldatei-Rekonstruktion via File-Copy.

RPO: Von jedem Snapshot möglich.

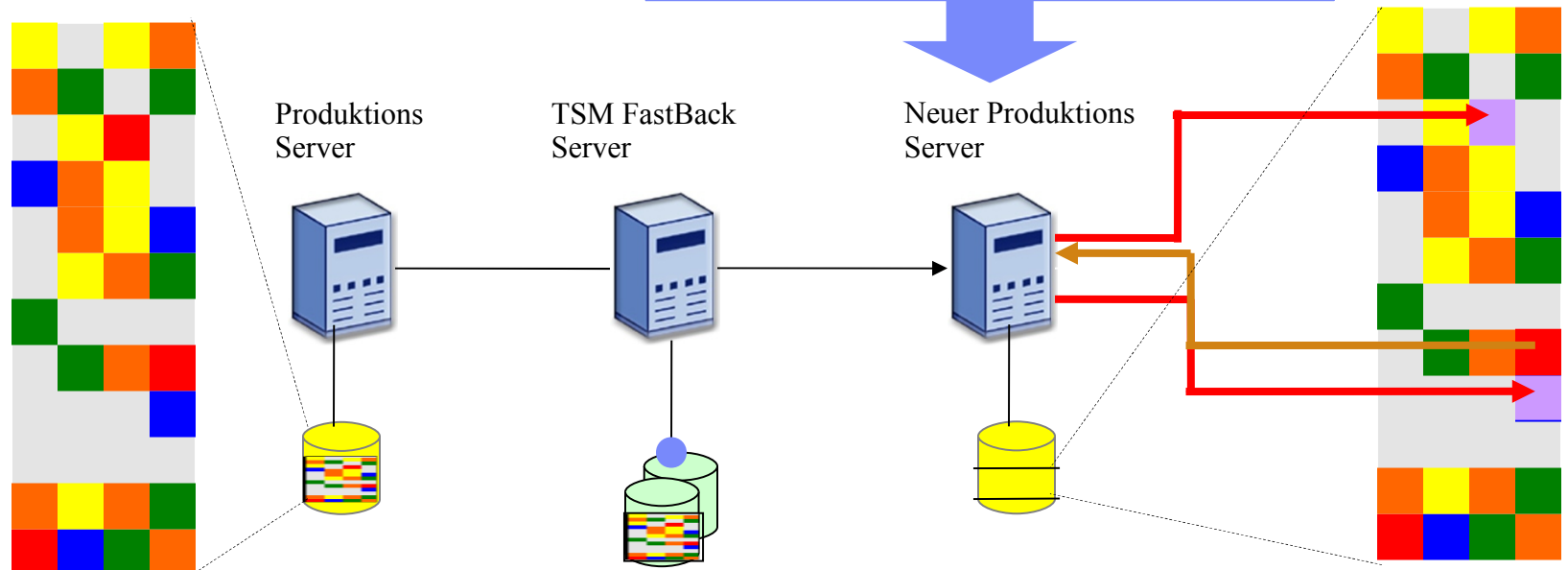
TSM FastBack – “Instant Restore” Verfahren

“Instant Restore” erlaubt Benutzern den Zugriff auf alle Daten während des Restores – auch wenn der Restore-Prozess noch nicht abgeschlossen wurde.

1. Aufrufen “Instant Restore”
2. Hintergrund-Prozess restauriert kontinuierlich die Blöcke
3. Neue “write IOs” werden normal ausgeführt
4. “Read IOs” von nicht restaurierten Blöcken werden aus dem FB-Server gelesen
5. Alle anderen Leseoperationen laufen über die restaurierte Platte

**Produktions
Disk**

**Neue
Produktions
Disk**



Continuous Data Protection (CDP) – Volume Level Restore

Echtes Blocklevel CDP (I/O Basierend)

Dadurch ist “Zero RPO” machbar

Delta Snapshots (incremental)

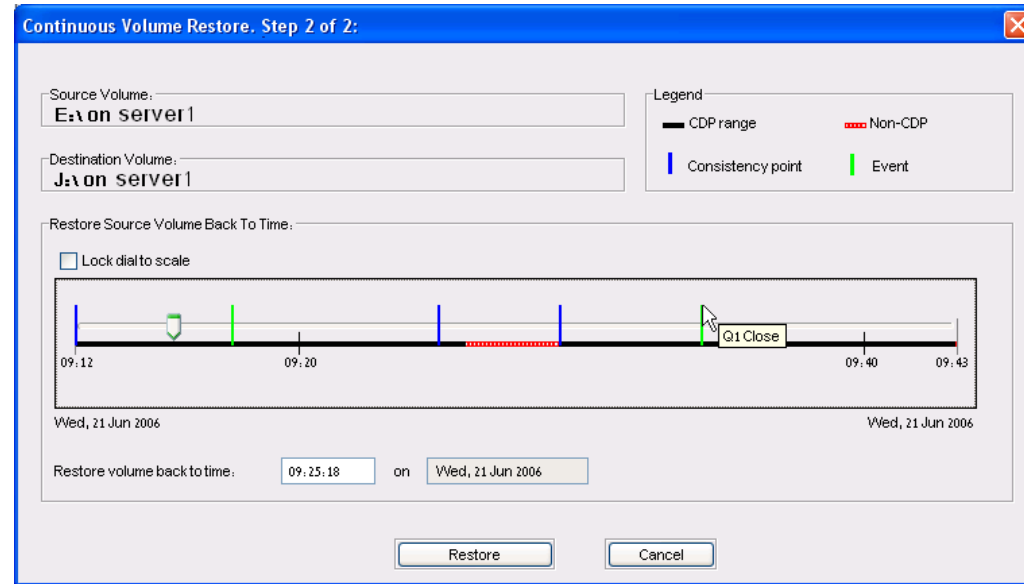
RPO pro Applikation einstellbar

Variierende Schutzgrade konfigurierbar

Einstellung pro Volume

Intuitives GUI

CDP ist ein Feature des Produktes, das Produkt bietet mehr als nur CDP



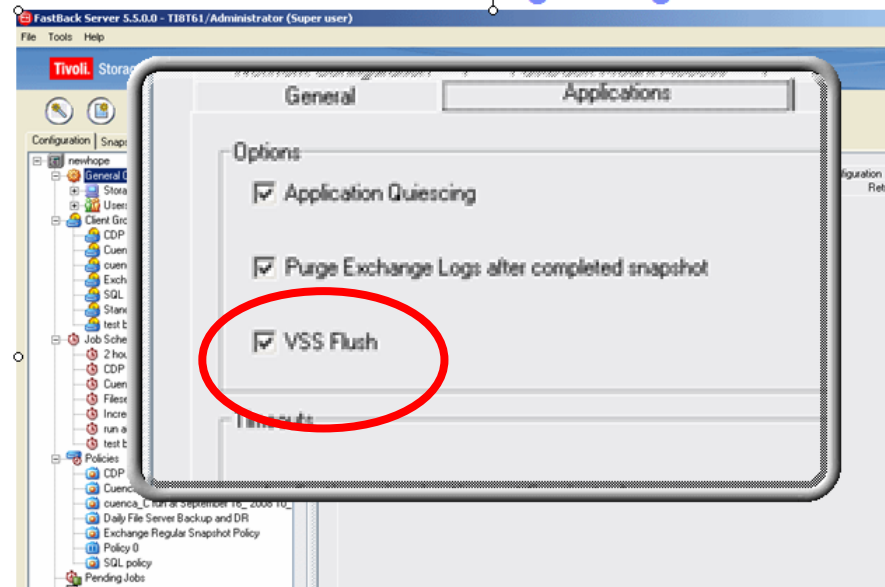
TSM FastBack bietet 3 Granularitätsstufen:

- CDP
- Häufige Snapshots (mehrmals täglich)
- Zeitgesteuerte Sicherung

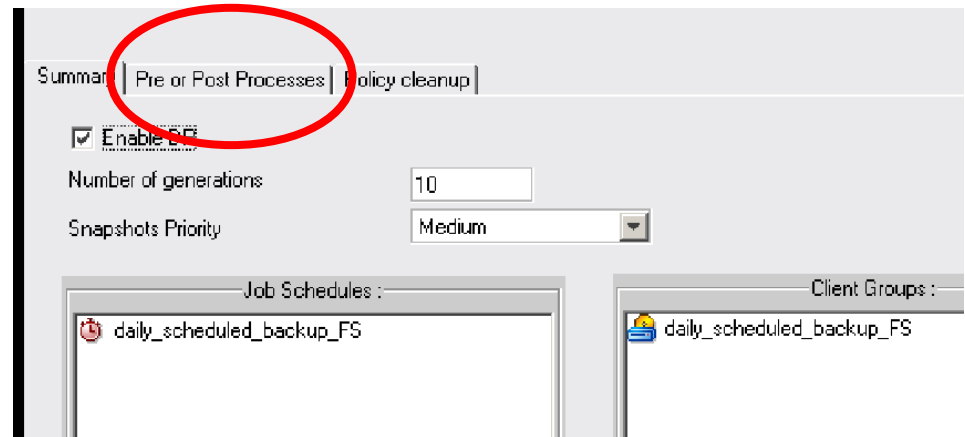
TSM FastBack Anwendungsintegration

Anwendungsintegration

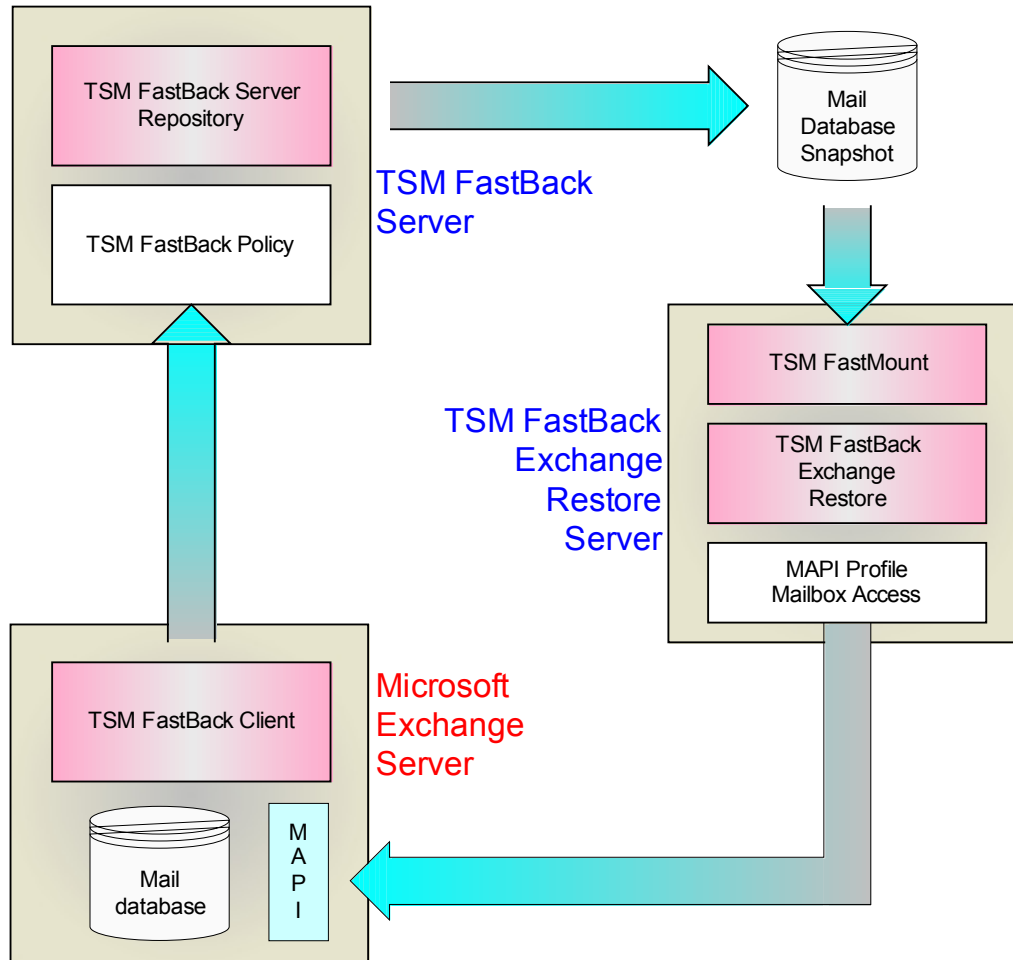
1. Nutzung der „VSS Writer“ Funktion
- MS Exchange, MS SQL, Oracle 11i



2. Bereitstellung von Pre-/Post- Processing Skripten zur Sicherstellung von Konsistenzkriterien vor dem Snapshot
- DB2, Domino, MS Sharepoint, etc.



TSM FastBack for Exchange Item Level Recovery



- Restore von individuellen “mailboxes” oder “mail items” (messages, contacts, calendar) via Virtual Volume
- Grafische Oberfläche ermöglicht einfache Selektion der Elemente für den Restore
- “mailboxes” oder “mail items” können angezeigt oder kopiert werden, ohne dass Exchange oder FastBack Server aktiv ist
- Intakte Elemente können sogar aus korrupten Datenbanken restauriert werden

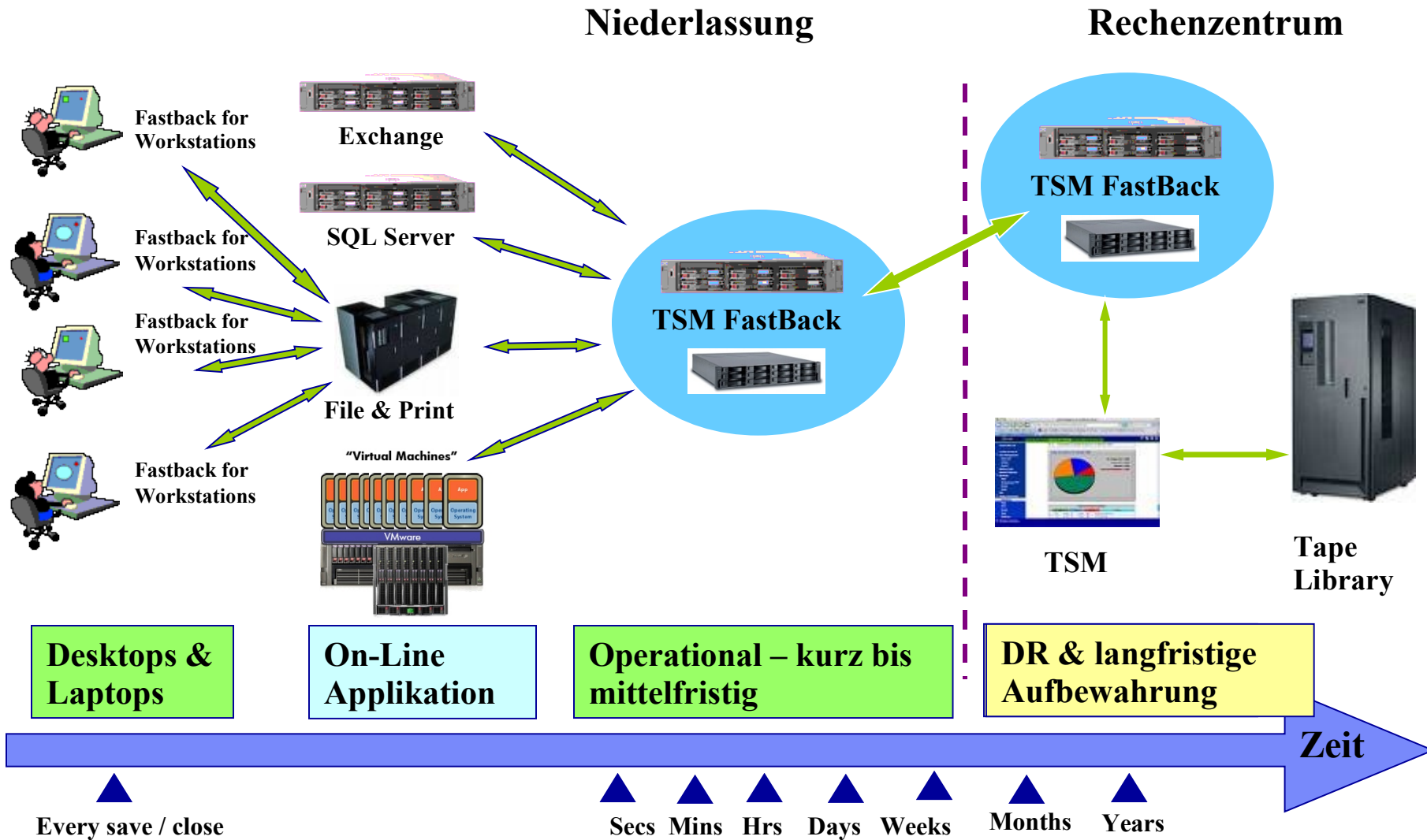
TSM FastBack Exchange Restore GUI

The screenshot displays the TSM Storage Manager Fastback GUI. The top bar shows the Tivoli logo and the product name. Below it is a toolbar with icons for various functions. The main interface is divided into several sections:

- Navigation Pane (Left):** A tree view showing a list of mailboxes and folders. The 'Inbox' folder is selected under the 'Rennad Murugan' mailbox.
- Table 1 (Top Right):** A table listing email items with columns for 'From' and 'Subject'. The selected item is 'RE: The Redbookens' from 'Rennad Murugan'. A context menu is open over this item, showing options: 'Save e-mail', 'SMTP e-mail Restore', and 'Restore To Exchange'.
- Table 2 (Bottom Right):** A table listing another email item: 'Information on All Users' from 'Robert Allen'.

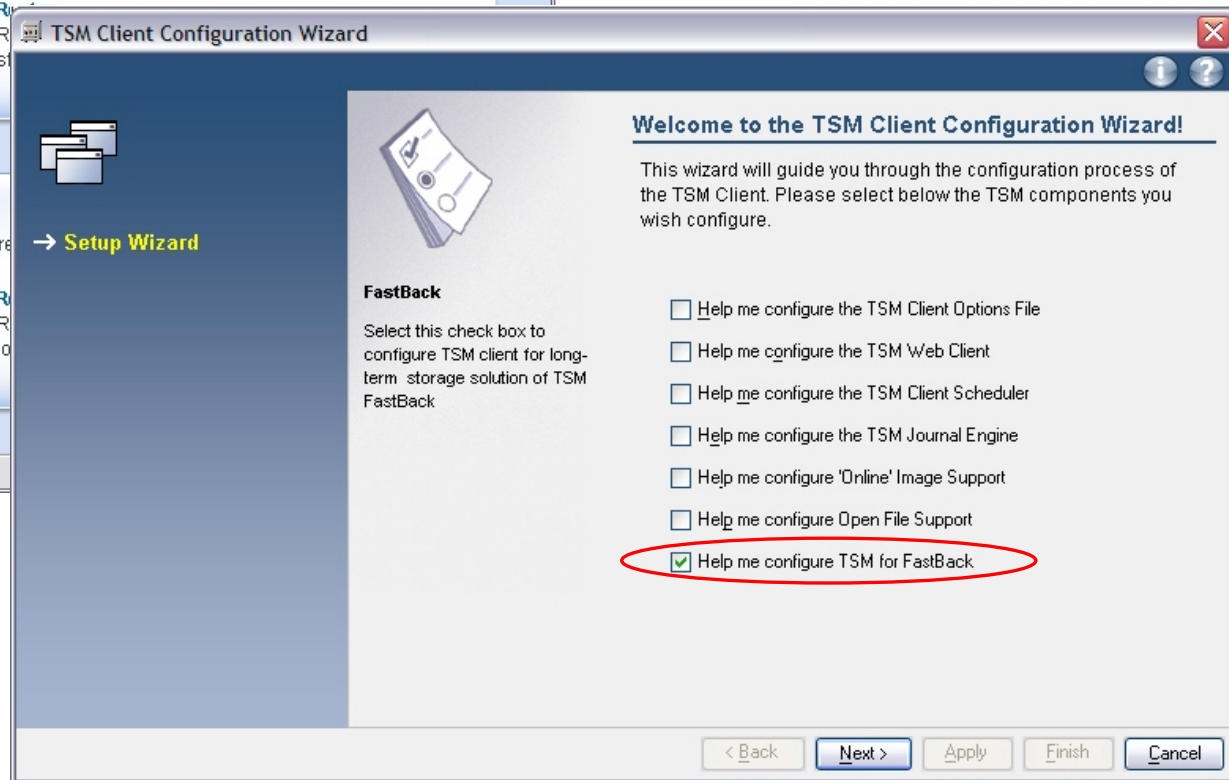
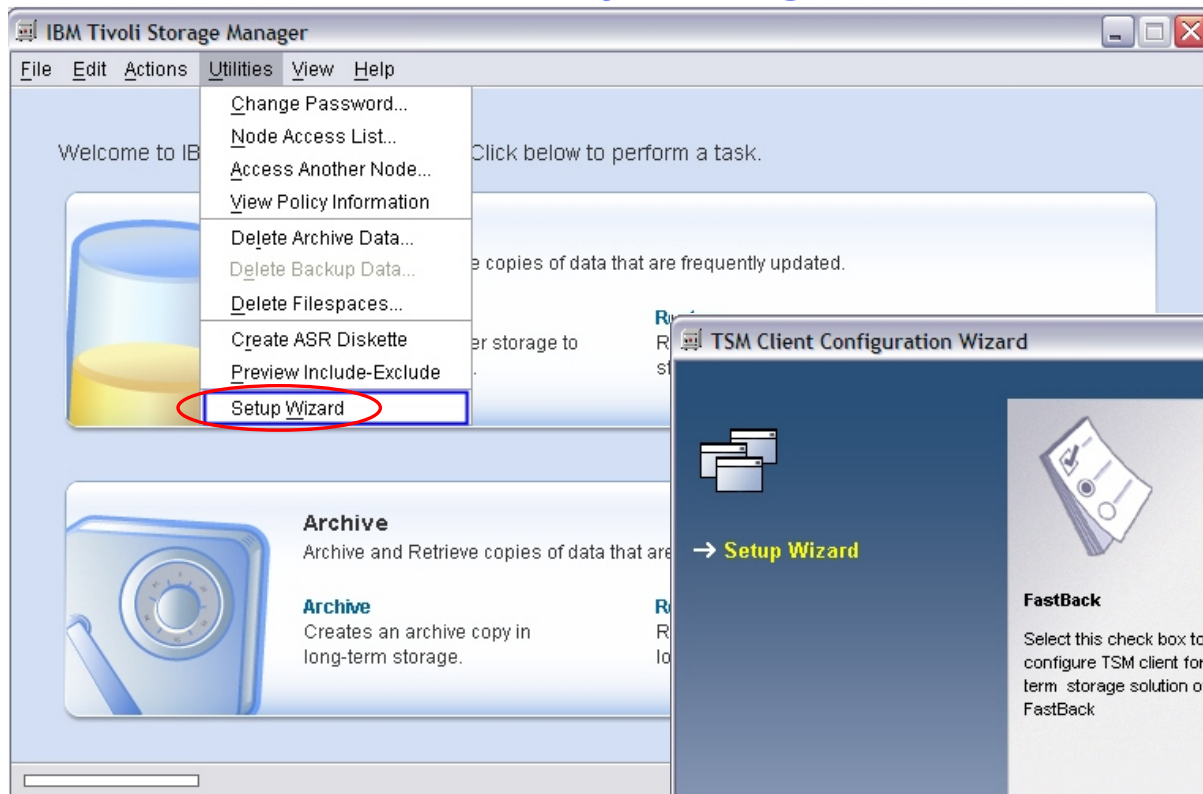
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Integration TSM Fastback und Tivoli Storage Manager



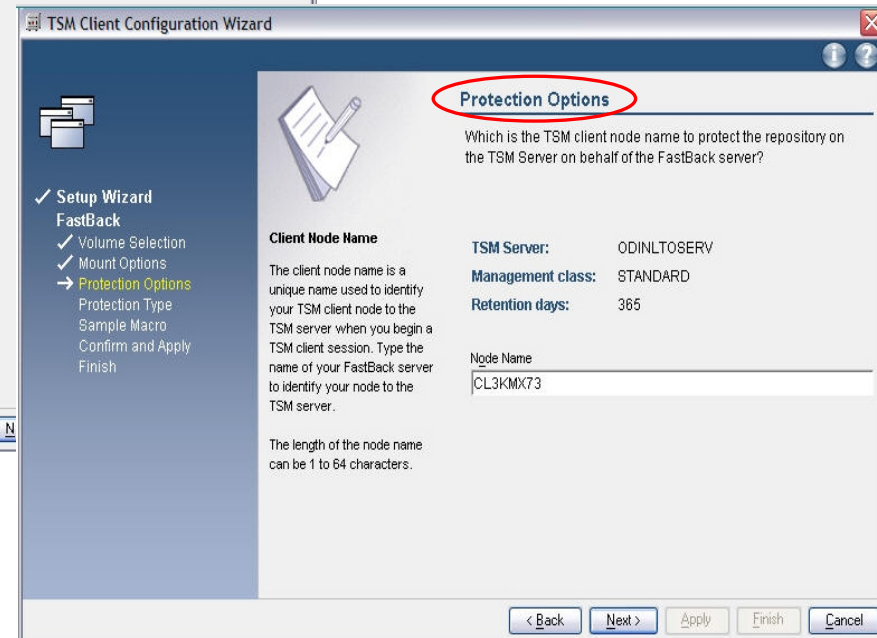
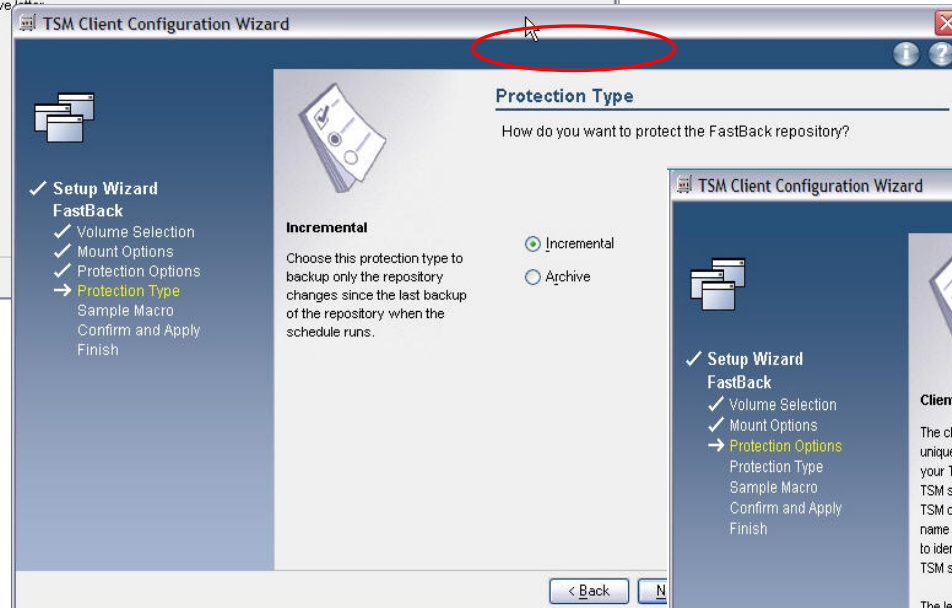
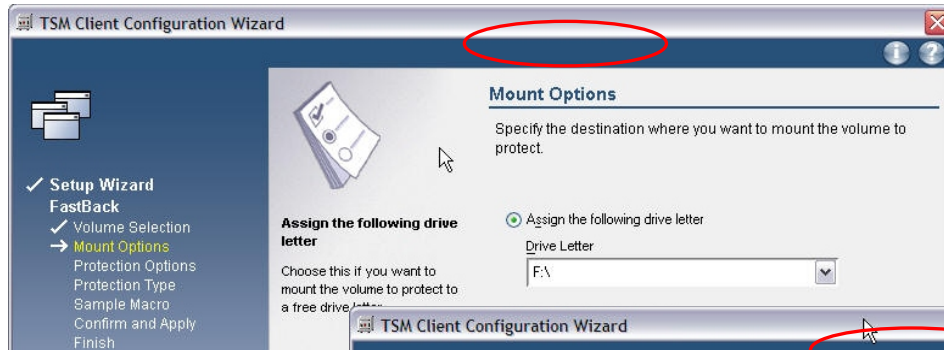
TSM and TSM FastBack Recovery Management Integration

TSM FastBack Recovery Management Wizard



TSM and TSM FastBack Recovery Management Integration

TSM FastBack Recovery Management Wizard



TSM FastBack Einsatzgebiete

✓ Für kleine und mittlere Unternehmen

- Stärken im Windows und Microsoft Anwendungs Umfeld
- Kosteneffizienter Ersatz von lokalem Tape Backup
- Einfache Installation und Betrieb
- Bis ca. 40 Sicherungsclients und ca. 15 TB verwaltetem Sicherungsvolumen

✓ Für Zweigstellen und Niederlassungen

- Kein ausgebildetes IT Personal vor Ort nötig, zentrale Administration möglich
- DR Lösung durch sichere Replikation
- Recovery von Außenstellen-Systemen in der Zentrale
- Konsolidierung von Backup & Recovery in das Haupt-Rechenzentrum

✓ Für geschäftskritische Windows Anwendungen

- Schnellstmögliche Wiederherstellung kritischer Anwendungen
- Unterstützt bei SLAs zur durchgängigen Verfügbarmachung kritischer Anwendungen

Aktuelle Neuerungen in TSM FastBack Version 6.1

FastBack Linux Client

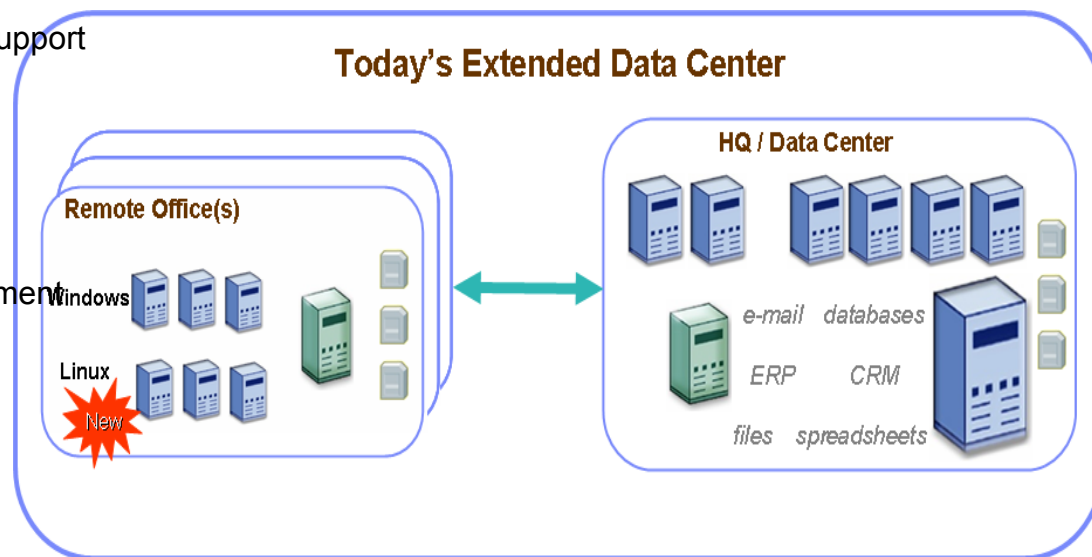
▶ FastBack Linux Backup/Restore support

- RH Enterprise Linux 5 Server for x86 32/64bit, based on Linux 2.6.18 kernel
- SuSE Linux Enterprise Server 10 service pack 2 for x86 32/64bit, based on Linux 2.6.16 kernel
- Volume level recovery
- File level recovery

- Out of the box scripted application quiescing support for :
 - Oracle
 - DB2
 - Domino
- FastBack Shell (CLI) support in Linux environment
- FastBack Manager on Linux
- Does not include FastBack Server

Benefits:

- Expanding Next Generation Data Protection to Linux

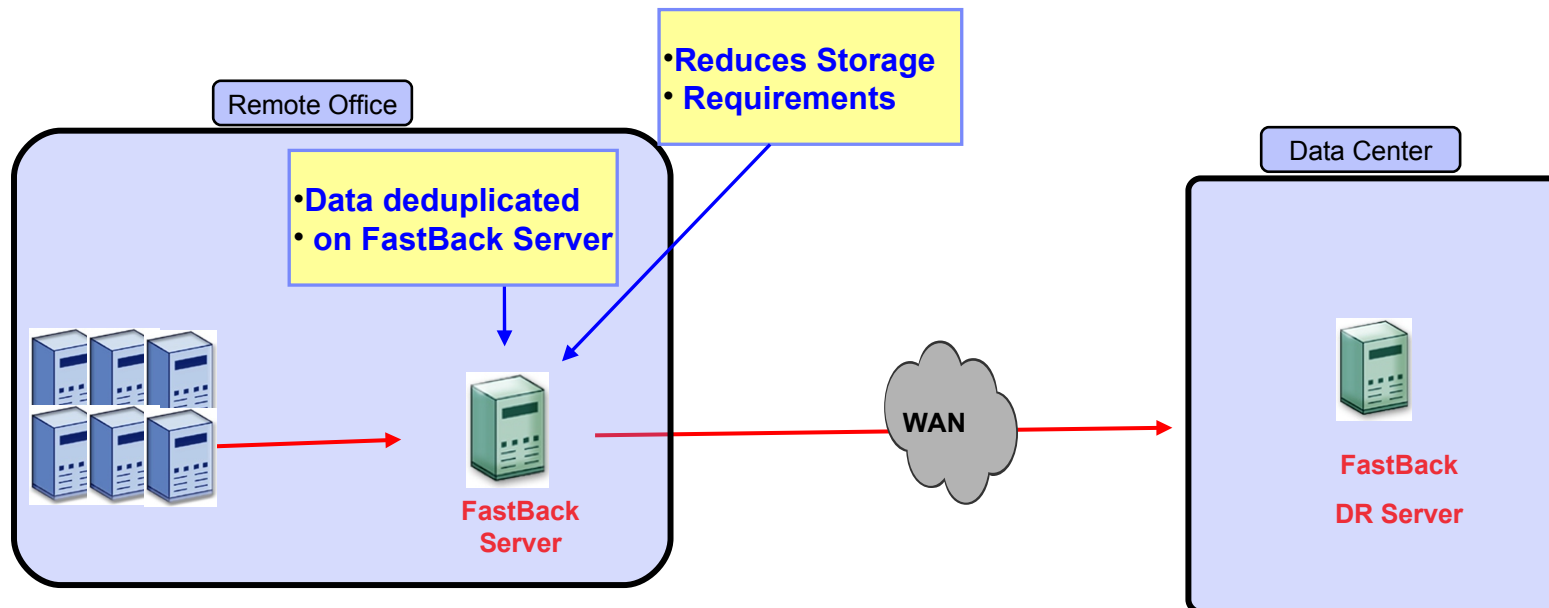


FastBack Server Deduplication

- Data deduplicated on FastBack Server
- Very fast post processing with no impact on backup operations
- Will provide space usage information to help customers to understand benefits of deduplication

Benefits:

- Remember: FastBack already has excellent data reduction capabilities based on its block level incremental forever snapshots
- Deduplication adds to this to further help reduce storage requirements



TSM Admin Center

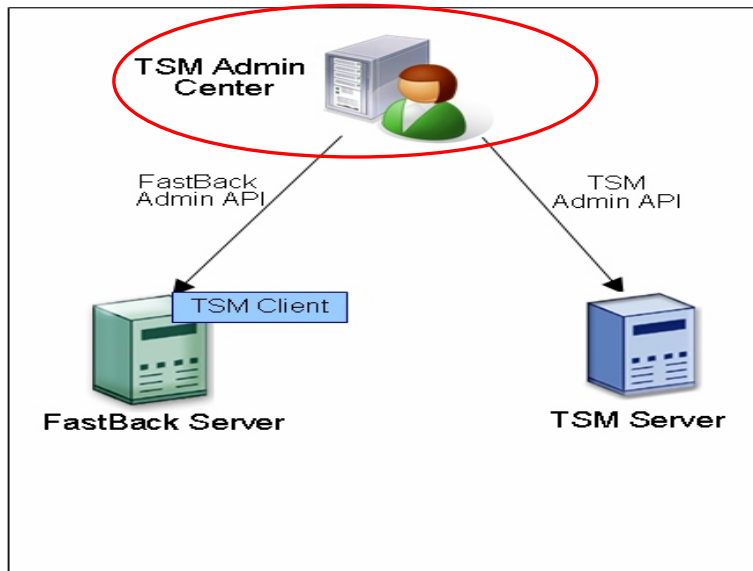
TSM and TSM FastBack Recovery Management Integration

Unified Policy Management

- 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
 - From a centralized location and using a single interface, configure policy for short-term operational recovery with Fastback and long-term data retention and retrieval with TSM



• Initial release of this capability is for FastBack Windows clients. Linux Clients support is targeted for 1H 2010

FastBack Servers

Integrated Solutions Console Welcome iscadmin

View: All tasks

- Security
- Users and Groups
- Troubleshooting
- Tivoli Storage Manager**
 - Getting Started
 - Manage Servers
 - Health Monitor
 - Enterprise Management
 - Storage Devices
 - Client Nodes and Backupsets
 - Policy Domains
 - Server Maintenance
 - Reporting
 - Disaster Recovery Management
 - FastBack Servers**
- Settings

FastBack Servers

FastBack Servers

This table shows the FastBack servers that have been added to the console. In order to manage them, you need to add server connections using your credentials. Once connections have been added for each server you want to manage, a custom interface containing the servers for which you have authority is provided.

Select	Server Name	TCP/IP Address	TCP/IP Port	Ver.	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"/>	fvtnx02	fvtnx02.storage.tucson.ibm.com	11460	5.5.4.0	BASIL	16316

Total: 2 Filtered: 2

--- Select Action ---

- Select Action ---
- Launch FastBack Manager...
- Add Server Connection...
- Modify Server Connection...
- Remove Server Connection
- Create a FastBack Policy Schedule...
- View Server Properties...
- Table Actions**
- Export Data
- Show Filter Row
- Clear All Filters
- Edit Sort
- Clear All Sorts
- Collapse Table
- Configure Columns
- Restore Defaults

Click to Launch FastBack Manager Interface

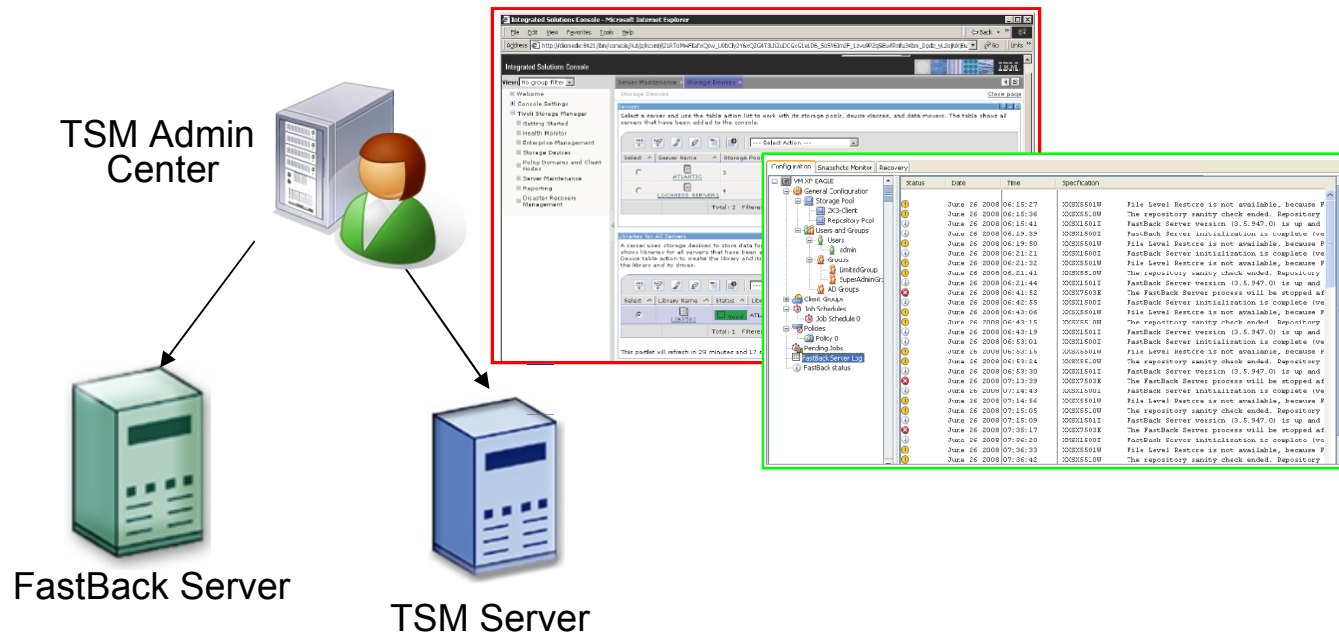
TSM and TSM FastBack Recovery Management Integration

Launch FastBack Manager from TSM Admin Center

- Integration with TSM to launch FastBack Manager from TSM Admin Center

Benefits:

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



Fragen ?

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